TRANSACTIONS

—OF THE—

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TWENTY-SIXTH ANNUAL MEETING

—OF THE—

MEDICAL SOCIETY

—OF THE—

STATE OF NORTH CAROLINA,

—HELD AT—

GREENSBOROUGH, MAY 20th, 21st and 22d, 1879.

WILMINGTON, N. C.:
JACKSON & BELL, PRINTERS AND BINDERS.
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MINUTES

—OF THE—

TWENTY-SIXTH ANNUAL MEETING

—OF THE—

MEDICAL SOCIETY OF NORTH CAROLINA.

FIRST DAY.

GREENSBOROUGH, N. C., May 20th, 1879.

The twenty-sixth annual meeting of the Medical Society of North Carolina convened in Benbow Hall, Greensborough, May 20th, at 11 o'clock, A. M.

The meeting was called to order by the President,

CHARLES DUFFY, JR., M. D.

The meeting was opened with prayer by the Rev. Dr. D. R. Brunton, after which Dr. J. K. Hall, of Greensborough, introduced Col. John A. Gilmer, who delivered the address of welcome.

ADDRESS OF COLONEL GILMER.

Mr. President and Gentlemen of the Medical Society of North Carolina:

The pleasing task of speaking in the name of this community, a word of greeting and honest welcome to your distinguished body though committed to unworthy hands, is accepted as an honor and a privilege. The assembling of so many representatives of so venerable and honorable a profession, involving the communion of minds devoted to the sacred pursuits of science and to the alleviation of human ills, is an occasion of real an imposing interest. For upon the results, conclusions and confirmations of deliberations like yours, depend important elements which shall enter into the great work of furthering and establishing the good of mankind. I therefore hail your coming together as the harbinger of further blessings, and tender you assurances of general sympathy and welcome.

The people of North Carolina recognize, accept and appreciate in the results of your labors, and in the development of the noble,

yet still occult science committed to your keeping, evidences of increasing and permanent good, and through their Legislature have given assurance of this faith in the organization and protection of this highly respectable body. And it is a source of no little pride with every true son of the "Old North State" (who marks in any degree the progress of the times) to note the fact that in effort, zeal, attainments, skill, dignity and distinction among her medical men she stands inferior to none and superior to many of her sister States, and the impulse of every patriot is to bid you "God speed" in all your organized and efficient work.

There are few, I trust very few, among the many truly reasoning and thinking people of our quiet old Commonwealth who partake in any measure of the apprehension now occasionally expressed, and sometimes preached, that at the increased knowledge of the natural world to which physicians are attaining is accompanied by a correspondingly decreased belief in the supernatural. With such few, and such views, I assume that this body, as well as myself, has no sympathy nor lot. A profession like yours, which in the complimentary and just language of another, "has almost annihilated distance, baffled pain, multiplied every convenience of life, and covered the civilized world with traces of triumphant skill," is surely too potent an instrumentality in illustrating the glory of God, to be regarded with any such timid apprehensions. The simple yet solemn ceremony by which we have just ushered in the beginning of your labors, have launched your deliberations on the wings of prayer to Him "whom by searching we may not find out," is a recognition by you of the important truth, that the science to which you have consecrated yourselves is the ready handmaid of the religion of the spirit. So, let all good people, all true seekers after light and knowledge, bid you press on in their gigantic strides of discovery which have signally characterized your progress in the present age; and let the timid laggard who accepts "Atheism as the creed of science" be overtaken by the humiliation of being excluded from the feast of the soul, which truth is spreading for us.

Therefore we greet your coming together and accord to you the foremost rank in the pursuit of truth in the natural world, and commend with propriety, I conceive, the Divine injunction "to forsake not the assembling of yourselves together."

Not only, Mr. President, in the triumph and faithful achievements of your study, investigation and experiment, but in the skillful and conscientious application of these beneficent results, do we recognize the claims of your profession to the sympathy of the public. Next to the sacred offices of men of God, no tenderer or more responsible duties and trusts are committed to any class of our fellow citizens than those entrusted to you. And here I beg to congratulate you upon those protective features of your organization by which quackery and unworthy representation, which will obtrude itself into all good institutions, may be exposed and avoided. The edict of Frederick II., King of Naples, published as early as the thirteenth century, requiring a rigid examination of every candidate for admission into the medical profession, and exacting from him, before entering upon the responsible duties of a practitioner, an oath, "to be pure in life, to be submissive to the laws, to attend upon the poor gratuitously, and not to share in the profits of the apothecary," was but an announcement of the lofty, responsible, and almost sacred sphere in which we conceive every true physician should move. In the peculiar features, therefore of trust, confidence, loyalty, benevolence and skill, the interest which attaches to your meeting in solemn convention is exceptional, and adds a zest to the sympathy and good will of the community in which your labors are expended. The public no longer associates with your honorable profession the superstitious Priest, the uncultured barber, and the mysterious alchemist, but seeks among your ranks for the cultivated gentleman, the true philantropist and the influential citizen. We have much to rejoice over, truly, in the present status of medical science. We are no longer taught, indirectly through the action of calomel and jalap supplemented by the rigid rule that no bystander dare dip so much as the tip of his finger into cold water and cool our parched tongue, that the torment of the Bible is to be administered in this present world through the instrumentality of the doctors. The fevered brow and fluttering heart of the little child are no longer aggravated by the addition of a nauseated stomach unappreciating the coming of the doctor, with the visions of British oil and aloes. The wounded soldier no longer feels his flesh quiver at the approach of the surgeon, under the contemplation of having his already pierced frame made a sieve for boiling

oil. But I withhold further comparisons of the past with the present, lest my remarks degenerate into "the odious." We all certainly bespeak for your deliberations and conclusions the force and dignity of real progress. These assemblies of yours will no longer be regarded as conclaves of mysterious and cabalistic notions. Nor are they to be classed with the boisterous demonstrations of party fealty and so-called statesmanship; but must be honored as quiet, dignified and earnest consultations for the public welfare.

The rule evolved by the venerable Guizot, after a long life study of men, events and nations, that "there is less of combination than of momentary inspiration, derived from circumstances, in the resolutions and conduct of great men," seems to be without application to the medical profession, whose success and glory are the fruits of the closest application and the most laborious study and experiment, and the combination and contribution of each one's discoveries to the establishment of the common fact.

May the goodness of truth ever preside over your deliberations and rule in your researches; may your labors continue to be crowned with success, and evolve, establish and proclaim those hidden secrets of nature, which shall render your profession a light to the suffering and an honor to our nation.

While you remain in our midst and partake of the hospitalities of our little city, which I most respectfully tender to you without stint or grudging, and when you shall have returned to your respective circles of labor and influence, I venture the expression of the hope that the pleasure of your conference may be heightened by memories of a friendly recognition and a generous sympathy.

Dr. Thomas J. Moore, of Charlotte, in behalf of the members of the Society, accepted the hospitalities so generously bestowed, and spoke of the peculiar fitness of the medium through which they had been tendered—the welcome and its manner being worthy the son of a Gilmer who had ever been foremost in all that concerned the interest or reflected the wishes of North Carolina.

The following committees were appointed:

Credentials—Dr. Eugene Grissom, Dr. Hugh Kelly and Dr. C. T. Murphy.

Finance.—Dr. J. T. Shaffner, Dr. James McKee and Dr. E. H. Hornaday.

The Committee on Credentials retired, and soon after the meeting adjourned until 3 P. M.

AFTERNOON SESSION.

Society assembled promptly pursuant to adjournment, at 3 P. M.

Dr. Grissom, Chairman of the Committee on Credentials made the following partial report:

To the Medical Society of North Carolina:

The Committee on Credentials beg leave to recommend for membership to this Society the following gentlemen, to-wit:

Dr. J. S. McLean, McLeansville, Guilford County.
" C. C. Peacock, Wilson, Wilson County.
" J. W. Smith, Reidsville, Rockingham County.
" B. A. Cheek, Greensborough, Guilford County.
" J. C. Ector, Friendship, Guilford County.

Respectfully submitted.

EUGENE GRISSOM,
HUGH KELLY,
C. TATE MURPHY, } Committee.

Dr. Walter C. Murphy offered the followed resolution which was adopted:

Resolved, That members of the profession who are present with a desire of becoming members of this Society, but who cannot do so until the Board of Medical Examiners shall have made their report, be invited to participate in the discussions of this body.

Dr. H. O. Hyatt, of Kinston, offered his resignation, by letter.

Dr. Grissom said Dr. H. had done honor to the Society by his conspicuous talents, and hoped he would not press his resignation.

Dr. O'Hagan was sure he expressed the commom sentiment of the Society in saying that the step taken by Dr. Hyatt is done without sufficient reason: and hoped that upon consultation with his friends, to withdraw his resignation. The Society could not afford to lose so valuable a member.

A motion to lay on the table the motion to accept the resignation was carried.

Dr. Thomas J. Moore, of Charlotte, in seconding the motion, eulogized Dr. Hyatt's career in the Society, and hoped that the Secretary would be instructed to send a letter of expostulation and assurances of fraternal consideration.

Dr. Hyatt's resignation was laid over until the next meeting.

A letter was received from Dr. L. A. Sayre, accepting his election as honorary member of the Society, was read by the Secretary. Ordered on record.

Dr. E. C. Seguin sent a correspondence from the Metric Board asking the Society to adopt the Metric System.

On motion of Dr. Thomas F. Wood it was referred to a committee of three.

The following committee was appointed:

Drs. Thomas F. Wood, Charles J. O'Hagan and R. L. Payne.

The committee was directed to report the advisability of this change at the next annual meeting of the Society.

The President announced the *Committee on Finance* as follows: Drs. J. F. Shaffner, James McKee and E. H. Hornaday.

The following report was submitted by the Committee:

To the Medical Society of North Carolina:

Your Committee on Finance, to whom the books and vouchers of the Treasurer were submitted having carefully examined the same, respectfully report that the duties of the Treasurer have been properly performed, the books accurately and neatly kept. They submit the following statement:

Cash on hand		$203.71
Am't received by dues at Goldsborough. (May, 1878)		238.00
Subsequent receipt from members		62.00
		$503.71
Expenses		275.71
Printing and Publishing Transactions	$230.00	
Secretary's expenses	32.76	
Incidental	12.95	
	$275.71	–228.00
Advertisement receipts		60.00
Balance in Treasury		$288.00

In reference to delinquent members we recommend that Sec 3, Art. VIII, of the Constitution be rigidly enforced, and further, to provide against the possibility of future indebtedness under which the Society so long and grievously suffered, we recommend an annual assessment of $2 per capita.

J. F. Shaffner, M. D.,
E. H. Hornaday, M. D.,
James McKee, M. D.,
} Committee.

Report adopted.

Dr. O'Hagan spoke upon the adoption of the report, and urged that the suggestion of the Committee be rigidly enforced. Mild measures has not moved members to pay their dues, like the old man in the fable they should be pelted with brick-bats. In this connection he spoke also of the faitful manner in which the Secretary had performed his duty, and moved that the Society offer to the Secretary, Dr. E. J. Picöt, one hundred dollars as an honorarium.

Motion unanimously carried.

Dr. Satchwell on behalf of the Local Committee of Arrangements, announced that the annual address by Dr. W. W. Lane, would be delivered in Benbow Hall on Wednesday evening at 8 P. M.

Dr. Walter Debnam, on behalf of Dr. Jones, Principal of the Greensborough Female College, extended an invitation to visit the College. Accepted, and the hour set at 6 P. M., on Wednesday.

Under the call for written communications, Dr. S. S. Satchwell, of Pender County, appeared and read a paper on *Sanitary Improvement.*

On motion of Dr. Picöt it was referred to Committee on Publication.

Dr. Wood moved that 10½ o'clock Wednesday, the organization of the North Carolina Board of Health be proceeded with, which motion was carried.

In consideration of the fact that the annual essayist, Dr. M. Whitehead would be ready to read his paper on Spondylitis, Dr. Thomas J. Moore moved for a reconsideration which was carried after debate. The hour for the reading of the essay by Dr. Whitehead was the order for 9 o'clock.

Dr. C. T. Murphy then moved that the next order immediately after the essay and the discussion ensuing, be the election of the North Carolina Board of Health, which motion prevailed.

Dr. T. D. Haigh, of Fayetteville, called up his resolution to amend the Constitution, the substance of which was to choose officers of the Society by ballot, and asked to withdraw it. Consented to.

The President then called upon the various Sections for reports.

The Chairman of the Section on Anatomy and Surgery, Dr. Charles J. O'Hagan, stated that his report was not completed and

asked permission to refer it to the Committee on Publication without reading it. Granted.

The Chairman of the Section on Obstetrics and Gynæcology being absent it was passed over.

The Chairman of the Section on Practice of Medicine being absent, Dr. Thomas F. Wood made the annual report. As this paper will not be published, the following summary is given :

The first subject taken up was the *Localization of Cerebral Disease.* It was from the pathological standpoint that the physiologist had received his greatest enlightenment, and fortunately for the progress of the work, for the most part, the pathologist was at the same time physiologist.

The doctrines of the localization of the brain have been so recently promulgated that "in* 1866, Vulpian, when speaking of cerebral localization maintained that nothing could justify the assertion that the various regions of the grey cortical substance of the brain had more influence on one than on any other function."

Dr. Ferrier excited renewed professional interest on these topics by making known his scientific discovery in 1873.

The German physiologist, Hitzig, claims to divide with Ferrier, the development of the theories of localization. Both instituted experiments to define and figure certain portions of the cortical cerebral substance as the sources of motor power ; that the exact points were not identical may be seen, by an examination of the writings of the two physiologists.

The experiments of Hitzig and Fritsch and Ferrier, were repeated and their conclusions were confirmed by other observers, and many clinical facts also were contributed in confirmation of the theory of localization, the phenomena of epilepsy being especially adduced as giving support to the new doctrines. But Hitzig was the first who proved by direct experiments that epilepsy could be referred to specific lesions of the cortical brain substance.†

Brown Séquard‡ does not deny the doctrine that the cortical substance has motor influence, but denies the possibility of localizing

*Med. Times and Gazette, 1878, p. 747.

†Motor Localization in the Cortical Part of the Brain, 1878.

‡Med. Times and Gazette, 1878, p. 747.

any function whatever either in it or any part of the brain. Every cellular element, according to him, presides over a determinate function; but nevertheless all the cellules destined to the same purpose would not be found united in groups and forming so many centres, but would be disseminated in every part of the encephalon, whereby a lesion may destroy any one part of this great centre, without altering any of its functions.

Dr. Maragliano believes that in man the compensation of a cortical lesion, although extensive, is possible for part of the opposite hemisphere, especially when the left is the injured one; and this substitution is effected generally, if not exclusively, by means of those bundles of direct fibres which go from the sound hemisphere to the same side of the body.*

In so far as these physiological theories bear upon the diagnosis of disease of the brain, they place the practice of this special department of medicine on an advanced ground.†

In the study which has been devoted to this branch in the past year, its promise for future practical results is very encouraging.

VALUE OF THE TENDON-REFLEX.

The value of "*Tendon-Reflex*"‡ which was recently studied by Professors Erb and Westphal, and afterward by Dr. Grainger Stewart, has been growing in professional confidence as a method of diagnosticating locomotor ataxia.

Dr. Stewart agrees with Erb and Roger "that in fully developed grey degeneration of the posterior columns of the cord the 'tendon reflex' is lost." It is hardly necessary to explain what is meant by tendon-reflex. By sharply tapping on the ligamentum patellæ, while the foot is dangling down and knee bent, a quick jerking forward of the foot is produced, after a sufficient interval succeeding the tap.

Dr. Allan McLane Hamilton§ reviewing eight cases of absent tendon-reflex says:

"It would seem, therefore, as if the absence of the patellar tendon-reflex were not so valuable a diagnostic sign as it has been

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*Med. Times and Gazette, 1878, p. 718.

†Goulstonian Lectures, 1878.

‡N. C. Med. Journal, Vol. 1, p. 199.

§Boston Med. and Surg. Journal, December, 1878, p. 786.

said to be in locomotor ataxia, but there can be no doubt of the fact that when its absence is coupled with the so-called 'lightning-pains,' plantar anæsthesia, and dimness of vision, there is reason for apprehension."

Under the head of "The Contagiousness of Phthisis" the literature of the subject during the past few years was reviewed, and the reporter seemed to have decided leaning towards the views as expressed by Dr. Edgar Holden and Dr. Bell in the *American Journal of Medical Sciences*, viz.: The question, can septic material be eliminated from the body of a person suffering from necrobiotic changes in the lungs, which floating in the air or transferred by contact, develop the same affection in another person?" To this practical point these two writers have been able to answer in the affirmative.

Dr. Holden epitomizes concisely this opinion, that consumption is communicable in its latter stages by means of soluble excrementitious matter thrown off by the skin and deposited on the bedding and under-clothing, or in any other manner brought into contact with the naked surface of a healthy body; and that, although in some instances this may be thrown off without development into new disease, it is yet very liable to be so developed, and more liable where the healthy person is by heredity or depression in a favorable state for its reception: and, finally, that the idea of infection or communication by the atmosphere is not sustained, and rare even if it is possible."

The use of the *Clinical Thermometer* as a means of diagnosis and prognosis, was fortified by the experience of a great many clinicists. Especially the reporter dwelt upon the probable value of the thermometer in localizing diseases by the difference noticed in the temperature of each side.

DIPHTHERIA.

The reporter said: "It would be a most curious volume that would contain an indexed enumeration of the remedies which have been vaunted as cures for diphtheria. The wildest jargon of the semi-barbarous age when toads and adders, and animal fluids the most loathsome, were made the ingredients of usual remedies, would be repeated in an intensified degree. Every shade of credulity has been exhibited both by the taker and giver of wonderful charms

to drive away the dreaded pestilence. Panic has seized households so that the mere mention of the word diphtheria was avoided. Physicians of mature judgment have 'lost their heads' and fallen in to the panic, and have 'tried' the pharmacy and therapeutics of the 'newspaper doctors.' But with all this apparent confusion some substantial work has been done."

After reviewing the literature of the germ-theory of the origin of diphtheria, Dr. Wood continued :

"Nothing is more desirable than to discover, isolate and describe the germ, but no investigation is more difficult. It is hard to avoid the suspicion that of the many learned men who speak of fungus spores and fungi, very few of them have sufficient knowledge of these botanical mysteries. For mysteries they are, as one can satisfy himself with an examination of the literature of this seclusive branch of botany. In this country, there are exceedingly few botanists who can speak with authority on the subject of mycological diagnosis ; and even the best of them find it necessary to subdivide the study and devote all of their time to it. The careless way that some microscopists use the words 'fungi,' 'fungus spores,' and 'fungoid,' shows not only their lack of knowledge of the coarse botany, but utter ignorance of polymorphism of microscopic fungi and their life history. It is necessary to speak in this somewhat denunciatory way, because very many general practitioners are too prone to catch up the suggestions about a named fungus as the resting place of their pathological theories, and some hygienists are equally prone to administer dangerous or offensive 'germicides' to 'persons and things' upon the pure speculation of some microscopist who passes for scientific because he can mystify with names unknown to him.

"Earnest patient study in this direction is going to reveal something, but the pathologist who would not make and publish blunders about mycological forms, had better borrow the eyes of Cooke and Berkely, and Farlow and Ellis, and Ravenel and Peck, and bide their time."

A review of treatment followed, which is too long to warrant an attempt to epitomize it.

Upon the subject of *Hydrophobia* the report was particularly full. The most interesting account of, all though under this head, was the admirable reported case of Dr. T. B. Curtis, of Boston, in which

the influence of curare is most minutely detailed. In this case "*in eight hours and a half three-fourths of a grain* of curare were given, and no effect was visible except slight flushing of the face." Very little matter of an encouraging character as to treatment was elicited.

The Apyretic Treatment of Fever, by means of vegetable alkaloids, giving their relative value, was viewed from a personal clinical stand-point. Malarial fevers were especially considered, and the value of cinchona alkaloids shown to have undisputed preëminence.

The property of jaborandi and its alkaloid pilocarpia, to reduce febrile heat was discussed at length, with a decided leaning towards its great value. The reporter had seen defervescence established upon the copious sweating following the use of the drug, and he believed that its fame was yet to be greater than the celebrated secret remedy—Warburg's tincture.

The report concluded with a consideration of the treatment of *Hepatic Abscess*. Confidence was expressed in the treatment by aspiration, as set forth by Drs. J. C. Davis, W. A. Hammond and others during the last two years, and while very few could go so far as the latter writer in considering the mental phenomena as sufficient guarantee of the presence of abscess, to warrant aspiration, the truth would surely be found by sufficient clinical inspection.

This report was the first of the series and was looked forward by the Society with great interest, not only for the intrinsic value of the papers, but as a beginning of more systematic work in the record of the progress of the medical sciences.

Dr. G. G. Smith, Chairman of the Section on Materia Medica and Therapeutics asked for indulgence. Granted.

Dr. G. G. Thomas, Chairman of the Section on Pathology and Microscopy being absent, on motion of Dr. Wood, of Wilmington, his report was referred to the Committee on Publication without reading.

Dr. T. D. Haigh read a paper on "Rotation of Fœtal Head in the Blades of the Forceps."

Dr. O'Hagan spoke most feelingly of the long suffering of women in that period in obstetrical art, when everything was left to nature. He paid a most eloquent tribute to the forceps in hastening the delivery of the suffering mother. Dr. Haigh's paper had explained

to him a heretofore unknown phenomenon, one he had witnessed without really being able to arrive at a satisfactory solution of it. He moved the reference of Dr. Haigh's paper to the Committee on Publication.

Adjourned until 9 o'clock. A. M.

SECOND DAY—MORNING SESSION.

Wednesday, May 21st, 1879.

The Society was called to order promptly at 9 o'clock.

President Dr. Charles Duffy, Jr., in the chair.

The special order being the reading of the Annual Essay, Dr. M. Whitehead, of Salisbury, read his paper on Spondylitis.

Dr. J. K. Hall thought the paper just read by Dr. Whitehead had gone over the whole field embraced in the subject, and in such a masterly way that there was nothing more to say. The pathology and treatment had been viewed from every possible stand-point, and he for one was willing for this to go on record as a permanent contribution.

Dr. O'Hagan in seconding the motion, thought it was not proper that the Society should allow such a paper to be read, and then keep silence as to its merits. The mere reference to the Committee on Publication was not the only compliment it deserved. But he agreed with his friend, Dr. Hall, that the whole range of the subject had been traversed in such a thorough way that there seemed to be no salient points to discuss. He heartily thanked his confrére for the pleasure and instruction he had given him and the Society.

Motion for reference was carried.

The roll was called by the Secretary, Dr. Picöt.

[The completed list will appear in the last day's proceedings].

Dr. Grissom, Chairman of the Committee on Credentials made the second partial report as follows :

To the Medical Society of North Carolina :

The Committee on Credentials beg leave to recommend for membership : Dr. D. Lindsay, of Kernersville, Forsythe County ; and Dr. S. B. Evans, of Statesville, Iredell County. And to report that Dr. H. T. Franklin and Dr. R. L. Cowan are duly accredited

delegates from Rowan County Medical Society; and that Dr. T. D. Haigh is also accredited as delegate, and Dr. W. C. McDuffie as alternate, from Cumberland County Medical Society to the State Society.

Respectfully submitted,

EUGENE GRISSOM,
HUGH KELLY,
C. TATE MURPHY, } Committee.

Adopted on motion of Dr. Debnam.

The hour for the organization of the North Carolina Board of Health under the new law, having arrived, the President announced that the Society was ready to proceed.

The report of the Secretary of the State Board of Health was read preliminary to and explanatory of the method of the election of the Board under the new law.

REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH.

To the Medical Society of North Carolina:

Since the last meeting of this Board held in Goldsborough from the 14th to the 17th day of May, 1878, the Committee entrusted with the execution of the law, have steadily pursued the object of their labors, the ultimate end of which was the building up of the Board by every means within their power.

The epidemic disaster of yellow fever in the valley of the Mississippi in the summer of 1878, was the great public calamity of the century, and like many other evils has wrought a good which probably would have taken many years to bring about. In November last, through the energy of the late lamented Dr. John M. Woodworth, Surgeon-General U. S. M. H., aided by zealous and influential sanitarians throughout the country, a conference on yellow fever was called, under the charge and auspices of the American Public Health Association. The meeting took place in Richmond, Va., and except to those unreasonable persons who look for seed-time and harvest in the same day, the conference was productive of great good. This is no place to review it, as the history of the movement is quite fresh in the memory of medical men throughout the world.

Recognizing the necessity of placing the North Carolina Board

of Health in communication with this movement, your Secretary undertook to take the matter in hand without further conference with the Committee for lack of time, and because he knew that the means to defray the expenses were not at hand.

Your Secretary was honored by being placed on the Advisory Committee of the American Public Health Association.

On the 2nd of January the President of the Association called the Executive and Advisory Committees to meet in conference at Washington, D. C. A full meeting was the result, and from these deliberations sprung the Act of Congress which created the National Board of Health. Soon after the General Assembly of North Carolina met, the Committee appointed at the Salem meeting in 1877, met in Raleigh, and but for the miscarriage of a letter to one of the members, it would have been a full meeting.

Several days were spent in deliberation. The final result was the offering of the Health Bill nearly as it now stands to the Legislature. Its passage was a great surprise and pleasure, although it was far from what we desired.

The bill is herewith presented :

AN ACT—SUPPLEMENTAL TO AN ACT CREATING A STATE BOARD OF HEALTH.

The General Assembly of North Carolina do enact:

SECTION 1. That the Medical Society of North Carolina shall choose from its active members, by ballot, six members, and the Governor shall appoint three other persons, (one of whom shall be a civil engineer,) and these shall constitute the North Carolina Board of Health.

SEC. 2. That the North Carolina Board of Health shall take cognizance of the health interest of the citizens of the State ; shall make sanitary investigations and enquiries in respect to the people: the causes of diseases dangerous to the public health, especially epidemics ; the sources of mortality ; the effects of locations, employments and conditions upon public health. They shall gather such information upon all these matters for distribution among the people, with the especial purpose of informing them about preventable diseases. They shall be considered the medical advisers of the State, and are herein specially provided for, and shall advise the government in regard to the location, sanitary construction and management of all public institutions, and shall direct the attention of the State to such sanitary matters as in their judgment affect the industry, prosperity, health and lives of the citizens of

the State. The Secretary of the Board shall make annually to the General Assembly, through the Governor, a report of their work for the year.

SEC. 3. The members of the Board of Health as elected by the State Medical Society, shall be chosen to serve, two for six years, two for four years, two for two years. Those appointed by the Governor shall serve two years. In case of death or resignation the Board will elect new members to fill the unexpired terms.

SEC. 4. The State Board shall have a President and Secretary, who shall be Treasurer, to be elected from the members comprising the Board. The President shall serve two years, and the Secretary and Treasurer six years. The Secretary and Treasurer shall receive ..... a year for his services, but the other members of the Board shall receive no pay, except that while on actual duty at meetings of the Board, or on duty during the time special investigations are being pursued, that each member shall receive $2.00 a day and necessary travelling expenses. These sums shall be paid by the Treasurer on duly authenticated requisitions signed approved by the President of the Board.

SEC. 5. There shall be an auxiliary Board of Health in each county in the State. These boards shall be composed of the physicians eligible to membership in the State Medical Society, the Mayor ..... of county town, the Chairman of the County Commissioners, and the City Surveyor, where there is such an officer, otherwise the County Surveyor. From this number one physician be chosen by ballot to serve two years, with the title of Superintendent of Health. His duties shall be to gather vital statistics upon a plan designated by the State Board of Health. He shall make the medico-legal *post-mortem* examinations for coroner's inquests, and attend prisoners in jails, poor-houses and work-houses. Their reports shall be made regularly as advised by the State Board through their Secretary, and they shall receive and carry out as far as practicable such work as may be directed by the State Board of Health.

SEC. 6. The salary of the County Superintendent of Health is to be paid out of the county treasurer, upon requisition and proper voucher, as follows: The salary of the Superintendent of Health shall not exceed the amount paid by the city or county in 1878, for services rendered by the city or county to sick in jail, work-house and poor-house, and medical examinations for coroner's inquests.

SEC. 7. The organization of the North Carolina Board of Health shall be completed immediately after the passage of the same. The biennial meetings for the election of officers, shall, after the meeting of organization, be for the County Boards on the first day of January, and of State Board of Health on the first day of the annual meeting of the Medical Society of North Carolina.

SEC. 8. Monthly returns of vital statistics upon a plan to be

devised by the State Board of Health, shall be made by the County Superintendent, and a failure to report by the tenth of the month, for the preceding month, shall subject the delinquent Superintendent to a fine of one dollar for each day of delinquincy.

SEC. 9. Inland quarantine shall be under the control of the County Superintendent of Health, who, acting by the advice of the local Board, shall see that diseases dangerous to the public health, viz: small-pox, scarlet fever, yellow fever, and cholera, shall be properly quarantined or isolated, (at the expense of the city or town in which it occurs). Any violation of the rules promulgated on this subject by the Superintendent of Health shall subject the offender to a fine of twenty-five hundred dollars and imprisonment for not longer than twenty days in the county jail. In case the offender be stricken with disease for which he is quarantinable, he will be subject to the penalty on recovery, without, in opinion of the Superintendent, it should be remitted. Quarantine of ports shall not be interfered with, but the officers of the local and State Boards shall render all aid in their power to quarantine officers in discharge of their duties upon request of the latter.

SEC. 10. *Abatement of Nuisances.*—Wherever and whenever a nuisance upon premises shall exist, which in the opinion of the County Superintendent of health is dangerous to the public, it shall be his duty to notify the parties occupying the premises, (or the owner of the premises if not occupied), of its existence, its character, and the means of abating it, in writing. Upon this notification the parties shall proceed to abate the nuisance, but failing to do this shall pay a fine of one dollar a day dating from twenty-four hours after the notification has been served: *Provided, however*, that if the party notified shall make oath or affirmation before a magistrate of his or her inability to carry out the directions of the Superintendent, it shall be done at the expense of the town or city. In the latter case the limit of the expense chargeable upon the town or city shall not be more than one hundred dollars in any case.

SEC. 11. *Vaccination.*—The Secretary of the State Board of Health shall keep a supply of fresh vaccine virus at his command, and he shall issue quantities, in value not to exceed one dollar for one requisition, to County Superintendents in case of a threatened outbreak of small-pox. The County Superintendents shall vaccinate and re-vaccinate all applying for such service, free of charge, the virus for such purposes to be furnished by the Secretary of the State Board of Health, at market rates. The County Superintendent shall vaccinate every person admitted into a public institution, (jail, work-house, poor house, public school), as soon as practicable, without he is satisfied upon examination that the person is already successfully vaccinated. On the appearance of a case of small-pox in a neighborhood, all due diligence shall be used by the Superintendent that warning shall be given, and all persons not

able to pay, to be vaccinated free of charge by him. The vaccine for this purpose shall be paid by the corporation in which the Superintendent serves.

SEC. 12. Bulletins of the outbreak of diseases dangerous to the public health shall be issued by the State Board whenever necessary, and such advice freely disseminated to prevent and check the invasion of disease into any part of the State. It shall also be the duty of the Board to enquire into any outbreak of disease, by personal visits or by any method the Board shall direct. The expenses [compensation] of members on such duty shall be five dollars a day, and the necessary travelling expenses.

SEC. 13. Special meetings of the State Board of Health may be called by the President, through the Secretary. The regular annual meetings shall be held at the same time and place of the State Medical Society, at which time the Secretary shall submit his annual report.

SEC. 14. When the County Superintendent of health shall in the course of his investigation required at coroner's inquest, think it necessary to subserve the ends of justice that a chemical analysis of the *viscera* or fluids of the body be made, he shall carefully pack up and seal the suspected article in a proper receptacle in the presence of a witness and forward it to the chemist of the agricultural station for analysis. (Such analysis shall be made free of charge, and be returned to the coroner of the county, such analysis having precedence over other matters of investigation not of a similar character, then in the laboratory of the chemist). Analysis for purposes connected with the hygenic duties of the Superintendent of health shall in like manner be made by the said chemist, upon requisition signed and approved by the Secretary of the State Board of Health. Such analysis will include soil, drinking water, articles of food, air, &c., to be packed for transmission by direction of the chemist of the agricultural station.

SEC 15. For carrying out the provisions of this Act two hundred dollars is hereby annually appropriated, to be paid on requisition signed by the Treasurer and President of the State Board of Health, and the printing and stationery necessary annually for the Board be furnished on requisition upon the State printer. A yearly statement shall be made to the Legislature of all moneys received and expended in pursuance of this Act.

SEC. 16. All previous Acts conflicting with this are hereby repealed upon the passage of this Act.

Ratified the 14th day of March, 1879.

Responding to a call from the National Board of Health for a conference with State Sanitary officers, your Secretary assumed the responsibility to represent the State Board in this conference. It was held in Atlanta, Ga., on the 5th, 6th, 7th and 8th of May. At this meeting many questions of importance to us were discussed,

and it is believed that the formulation of these views there expressed will mark an era in our new work.

Your Secretary deemed it of great importance to begin early to cultivate proper relations with the National Board, and believes that this part of his voluntary work will be approved of by the friends of the movement in North Carolina.

I present herewith the blanks issued for your inspection. I congratulate the Medical Society of North Carolina upon the healthy development which by the efforts of her members she has been able to work out, but must remind them that we are just at the beginning of primary work, the proper performance of which will decide whether or not we are true sanitarians, and deserve further powers and privileges from the people of North Carolina.

Respectfully,

THOMAS F. WOOD,
Secretary.

Motion by Dr. Debnam that the gentlemen who had passed the Board be at once admitted to take part in the business about to ensue.

Dr. Grissom explained that the Board of Examiners was not quite ready with their report.

Shortly afterwards the following was submitted by the Chairman of the Committee on Credentials, Dr. Grissom :

To the Medical Society of North Carolina:

The Committee on Credentials beg leave to report for membership the following named gentlemen recommended by the Board of Medical Examiners :

Dr. James M. Covington, Rockingham.
" Cornelius M. Battle, Rocky Mount.
" Charles M. Glenn, Greensborough.
" Edward Lindsay, Greensborough.
" D. M. Prince, Laurel Hill, Richmond County.
" O. P. Robinson, Fayetteville.
" W. R. Hollinsworth, Mt. Airy.
" C. E. Bradsher, Hurdle's Mills, Person County.
" H. W. Lee, Raleigh.
" Hubert Haywood, Raleigh.

Dr. Turner E. Balsley, Greensborough.

Respectfully submitted,

EUGENE GRISSOM,
HUGH KELLY,
C. TATE MURPHY, } Committee.

On motion of Dr. Thomas F. Wood, Dr. A. R. Ledoux, Chemist and member of the North Carolina Board of Health on part of the State, being present, was invited to take part in the deliberations of the Society. Carried.

The report of the Secretary, Dr. Wood, and the new law being read, enquiries from all parts of the hall were put, asking for further elucidation of the law.

Dr. C. T. Murphy asked how to proceed in cases that medico-legal chemical analyses were required by the County. The circular issued from the Chemist of the Board, Dr. Ledoux, was read as follows:

METHOD OF PROCEDURE IN CASES OF SUSPECTED POISONING.

LABORATORY OF THE N. C. EXPERIMENT STATION,
CHAPEL HILL, April 24th, 1878.

To the Coroners and County Superintendents of Health of the State of North Carolina:

I beg to call attention to Section 14 of "An Act Supplemental to an Act creating a State Board of Health passed by the late Assembly and ratified on March 14th. This Section is as follows:

"SEC. 14. When the County Superintendent of Health shall in the course of his investigation required at coroner's inquest, think it necessary to subserve the ends of justice that a chemical analysis of the *viscera* or fluids of the body be made, he shall carefully pack up and seal the suspected article in a proper receptacle in the presence of a witness and forward it to the chemist of the agricultural station for analysis. (Such analysis shall be made free of charge, and be returned to the coroner of the county, such analysis having precedence over other matters of investigation not of a similar character, then in the laboratory of the chemist)." * * *

The Board of Agriculture, recognizing not only the claims of the law but the claims of humanity upon them, have made arrangements by which the analyses in question can be made through the Experiment Station. Knowing that were I compelled to make such analysis in person, it would occasion great delay and serious interference with my work, especially during my long absences from

my post when testifying at Court, &c., they adopted the following resolution :

"*Resolved*, That the Chemist of the Board be authorized to employ such additional labor as may be necessary to prosecute the analyses in cases of suspected poisoning, as required by Section 14 of An Act Supplemental to an Act creating a State Board of Health, at an expense for the same of not more than * * * dollars per annum."

In compliance with the above resolution of the Board, I have secured the coöperation of Prof. A. F. Redd, of the University, who will devote himself to any cases which may arise under the provisions of the law above cited. Prof. Redd has made all the analyses of this character that have been required in the State during the last two years, so far as I am informed. Your attention is called to the following instructions which should be followed as nearly as possible to comply with the law, and to secure an analysis which will stand in Court.

1st. Except in special cases, it will be sufficient to place the stomach, the whole of the liver and spleen and the bladder each in a separate, perfectly clean glass jar, with tightly fitting glass top (a fruit jar serves well). Care should be taken that none of the contents of the stomach or bladder escape. No disinfectant or preservative should be added in any case.

2d. Seal each jar thoroughly and label distinctly with the name of its contents.

3d. Secure, if possible, any vomit or urine voided immediately before death, and also any liquids, powders or other substances which are suspected of having caused death, or any vials or other receptacles which may have contained the poison, sealing each as before.

4th. Let these jars be delivered at the Station by some one, properly authorized, in person. Do not send by express. The person bringing the jars should never allow them (or the receptacle in which they may be packed), to get out of his sight, unless to go under a lock, to which the carrier holds the key. The messenger will bring the jars to the Experiment Station and deliver them to me, or to Prof. Redd in my presence.

The expenses of these analyses will be defrayed by the Department of Agriculture, but the pay of Prof. Redd in attendance upon

Court will still be regulated by the laws specially providing for the remuneration of witnesses and experts.

Respectfully,

ALBERT R. LEDOUX,

Chemist to the Department of Agriculture.

Dr. Foote, of Warrenton, made some remarks on the organization of the Board of Health in his county, discussing the bearings of the new law upon the present status in Warren.

The Secretary of the Board said in reply that he thought these County Boards were not mere voluntary organizations, but were as compulsory by the law as any on the Statute Book. That no other provision was made for the care of the sick in public institutions in the counties except such as would be given by the County Superintendents of Health. That the Superintendents were elected from among the *physicians* composing the Board, and that their pay was to be what the sum total of services rendered to the county for the sick in jail, poor-house, work-house, and medico-legal examinations for the year 1878. That licentiates of the Board of Medical Examiners, or those physicians not coming under its provisions by reason of having begun the practice of medicine prior to 1859, were recognized as elligible within the meaning of the law.

A general discussion of the bearing of the bill, reviewing its benefits, its faults, and short comings was indulged in, by several members. After this the Society proceeded to ballot.

Dr. P. E. Hines, of Raleigh, moved that the election of the Board be proceeded with and that the election of the two members for six years be taken up.

He nominated

Dr. S. S. Satchwell, of Rocky Point, Pender County.

Dr. Thomas F. Wood, of Wilmington.

Dr. Satchwell and Dr. Wood were unanimously elected.

Dr. Satchwell returned thanks for the complimentary vote he had received.

On motion of Dr. C. Tate Murphy, the two members to serve four years were balloted for.

Dr. C. J. O'Hagan, Geo. A. Foote, James McKee, Wm. R. Wilson, and Eugene Grissom were put in nomination. The choice was as follows, to serve four years :

Dr. Charles J. O'Hagan, Greenville.
" George A. Foote, Warrenton.

The remaining two members to serve for two years were balloted for, resulting in the election of

Dr. M. Whitehead, of Salisbury.
" R. L. Payne, of Lexington.

The Secretary then declared the following members of the North Carolina Board of Health to be elected :

For six years—

Dr. S. S. Satchwell, Rocky Point, Pender County.
" Thomas F. Wood, Wilmington.

For four years—

Dr. Charles J. O'Hagan, Greenville.
" George A. Foote, Warrenton.

For two years—

Dr. M. Whitehead, Salisbury.
" R. L. Payne, Lexington.

The Committee on Credentials made the following partial report :

To the Medical Society of North Carolina :

The Committee on Credentials beg leave to recommend the following named gentlemen for membership :

Dr. W. S. Coble, Brick Church, Guilford County.

Dr. R. W. Thomas, Thomasville.

We also report the following names recommended by the Board of Examiners :

Drs. Wm. P. Beall, S. B. Jones, J. M. Baker, H. T. Trantham, W. P. Mercer, A. D. McDonald, W. J. Gilbert, J. J. Cox, W. F. Cook, S. W. Stevenson and Edward A. Speed.

EUGENE GRISSOM,
HUGH KELLY,
C. TATE MURPHY, } Committee.

The members of the newly elected Board of Health, were requested to meet at the McAdoo House, immediately after adjournment of the Afternoon Session, to elect officers.

Dr. James McKee, of Raleigh, introduced the following resolution which was carried :

WHEREAS, At the session of this Society, held in Raleigh, in May, 1872, Dr. W. W. Gaither was, by resolution, elected an honorary member of the same ; and

WHEREAS, It does not stand as a matter of record upon the

books of the Secretary, but does upon those of the Treasurer; and

WHEREAS, Dr. Gaither has resumed the practice of his profession and desires to be in active membership with the Society.

Resolved, That the Treasurer be authorized from and after this meeting to transfer his name to the list of paying members, and that this be made a matter of record.

Adjourned until 3 o'clock P. M.

SECOND DAY—AFTERNOON SESSION.

Wednesday, May 21st, 1879.

Meeting called to order promptly at 3 o'clock by the President, Dr. Charles Duffy, Jr.

Dr. W. W. Gaither introduced the following resolution:

Resolved, That our members in Congress be earnestly requested to urge the passage of a bill, immediately, freeing cinchona bark and all its products, from all import duty. Carried.

Upon a call for written communications, Dr. R. H. Lewis, of Raleigh, read on the "Spectacles in Youth."

Dr. Picot read letters from Drs. Ramsay, and A. B. Pierce, regretting their inability to attend.

Dr. O'Hagan thought there was no question of more practical value than the one treated of in Dr. Lewis' paper, and none that had a wider range of usefulness. There are moral troubles which arise from optical disturbances little understood by the general practitioner. The illustrations introduced were some myopic cases. The New York *Medical Record* had an account of the same subject before the Medical Society of New York. Dr. Hermann Knapp called attention to moroseness rsulting from myopic eyes. For these and many other reasons he deemed Dr. Lewis' paper one of unusual importance, and very timely, and he thought the thanks of the Society ought to be tendered him, and that it be referred to the Committee on Publication.

Dr. Thomas J. Moore read a paper illustrating views of Dr. Chisholm, of Baltimore—the case being one of gun-shot wound of the eye.

Dr. C. Tate Murphy moved the reference of Dr. Moore's paper to the Committee on Publication.

The Committee on Obituary made the following report:

To the Medical Society of North Carolina:

The Committee beg to submit the following report:

We have examined the roll of membership, and find those of our members deceased to-wit: J. A. Gibson, late of Concord, F. N. Luckey, late of Rowan county, and G. H. Macon, Littleton, N. C.

Resolved, That in the death of these brethren the Society has sustained a loss of three of her honored members, and the sympathies of the Society are hereby tendered to the bereaved families of the deceased.

JAMES K. HALL,
JAMES F. LONG,
W. T. CHEATHAM, } Committee.

Dr. M. Whitehead moved that the Essayist be allowed to choose his own subject. Carried.

Dr. W. C. McDuffie, of Fayetteville, read a paper on "Puerperal Eclampsia," which, on motion of Dr. Shaffner, was referred to the Committee on Publication.

Dr. Wm. R. Wood read a paper on the "Use of Sulphur in the Treatment of Diphtheria."

Referred on motion of Dr. McKee to the Committee on Publication.

Dr. R. F. Lewis, of Lumberton, read a paper on "Puerperal Eclampsia with Pyophthalmitis."

Referred, on motion of Dr. W. R. Wilson to the Committee on Publication.

Dr. M. Whitehead reported a case of entire absence of clitoris, vagina and uterus. The patient had well developed mammæ, usual hairy covering of the mons veneris. He could easily pass the finger into the bladder through the urethra. The partition between the bladder and the rectum was very thin. He could pass his finger up both organs. There was no menstrual molimen, and no cul de sac.

Dr. R. K. Gregory, of Charlotte, reported the case of an Irishman. He had had violent pains in the bladder, with passage of pus from the bladder. There was great vesical tenesmus. Carbolic acid solution was injected into the bladder. The patient passed 400 hairy worms from the bladder; the largest was half an inch, from that to the size of a broomstraw.

D. J. H. Hall had also a case in the same town, in which the patient was afflicted for the greater part of eight or ten years.

The Committee on Credentials made the following partial report:
To the North Carolina Medical Society:

The Committee on Credentials respectfully recommend Dr. J. M. Tomlinson, Bush Hill, Randolph county, for membership; and report the following named gentlemen recommended by the Board of Examiners:

Dr. J. A. Sexton, Raleigh, N. C.
" J. T. Sledge, Middleburg, N. C.
" R. H. Hargrave, Robesonville, Martin County.
" J. T. Winston, Youngsville, Franklin County.
" J. L. Gunn, Yanceyville.
" C. A. Swindell, Greenville, Pitt County.
" H. F. Burgin, Marion, N. C.
" W. L. Abernethy, Hickory, Catawba County.

EUGENE GRISSOM,
HUGH KELLY,
C. TATE MURPHY,
} Committee.

The President announced that the address of Dr. Lane, the annual orator would be delivered in the Benbow Hall at 8 o'clock, and that the medical profession and public generally were invited to attend.

The Society assembled in a body at 8 o'clock on Wednesday night in Benbow Hall, to listen to the address of the orator, Dr. Wm. W. Lane, of Wilmington. There was a large audience of ladies and gentlemen to grace the occasion with their presence.

The speaker was listened to with the closest interest. He reviewed the history of sanitary and medical science, but dwelt more particularly upon the development of modern therapeutics, and its relations to existing physiology.

[See supplemement].

Resolved, That the thanks of the Society be tendered to Dr. Lane for his able and interesting address, and that a copy be solicited for reference to the Committee on Publication.

Adjourned until 9 o'clock, A. M.

THIRD DAY—MORNING SESSION.

Thursday, May 22, 1879.

The Society was called to order promptly at 9 o'clock.

President Dr. Charles Duffy, Jr., in the chair.

Dr. M. Whitehead moved to pay the travelling expenses of the Treasurer, as some slight testimonial of the appreciation of the Society of his dutiful services. Carried.

Dr. S. S. Satchwell, of Pender County introduced the report of the Committee appointing Dr. Thomas J. Moore, of Charlotte, as Essayist for the session of 1880.

Dr. M. Whitehead, of Salisbury, introduced the following resolution:

Resolved, That we again endorse the NORTH CAROLINA MEDICAL JOURNAL and would earnestly urge upon the members of the profession in the State, and of this Society its support by purse and pen, and we regard its success as of vast importance to the profession of the State.

Dr. C. Tate Murphy in seconding the resolution said he had prepared a similar resolution himself, and he was forestalled by his friend, Dr. Whitehead. This made him all the more sure that his judgment in the course the Society should pursue was plain. We should give our united endorsement to this work. It was a work of the whole profession, and had shown its ability and usefulness.

Dr. T. D. Haigh, of Fayetteville, thought the NORTH CAROLINA MEDICAL JOURNAL was a great success. It has gained every month in strength and power, and this was all due to the energy and discrimination of the editors. He would call the attention of the Society to the indisposition on the part of medical men to appear in print, especially those in the country. They are too prone to believe that the cases occurring in their practice of not sufficient importance for the public professional eye; whereas, well recorded cases of every day occurrence were the sure guides to be followed by general practitioners, rather than the rare cases only seen in hospitals. The editors had a right to expect aid from every member of the State Society. He would not speak of the ability of the editors, for that was too widely recognized to require a word from him.

Dr. P. E. Hines, of Raleigh, endorsed what Dr. Haigh had said. The country practitioner in his quiet way, working out cases at the bedside without an opportunity of consulting his professional friends or his books, did the sort of work that has made a name for the general practitioners in America. Dr. Marshall Hall in his visit to this country recognized the true worth of this important class.

They are the conservative element in the science and art of surgery and medicine in this country, and their yet unwritten experience is what is yet to add largely to the reputation of American physicians. Their duty is to clearly sustain the JOURNAL by all means in their power.

Dr. Whitehead's resolution was unanimously adopted.

[The report of the Committee on Credentials here presented will appear in another place].

Dr. R. K. Gregory then called the attention of the Society to some appliances of his own devising.

First.—The appliance of the microphone to the stethoscope, so as to develop audibly the minutest abnormal sounds.

Second.—A model for a sphygmograph.

Third.—A self registering tape for measuring the respiration.

A full description with illustration is promised for the appendix.

Dr. Satchwell introduced Dr. James F. Long, and announced that he had carefully prepared an address on the "Use and Abuse of Alcoholic Drinks."

Dr. Long's address was received with marked approbation.

Dr. Hines offered his sincere thanks for the very instructive and magnificent address of Dr. Long. Dr. George B. Wood's last advice to the class in which he graduated was—"Look well before administering alcohol. He would impress the importance of the same warning so truthfully painted in words by Dr. Long upon all present. It was the great moral question of the day, and the medical profession had a vast influence to wield for good or for evil, in the very beginning of drinking habits.

Dr. C. Tate Murphy also endorsed most heartily the tenor of Dr. Long's address, and thought it was high time the profession was sounding the alarm from their scientific stand-point.

He moved that Dr. Long be requested to furnish the Committee on Publication with a copy of his address. Carried.

Dr. W. W. Gaither reported *first* a case of labor that he attended in which, upon examination, he found there was a tumor complicating the delivery. *Second.*—A case of "Spontaneous Evolution."

Dr. Hines reported a case showing the power of nature unaided to convert an apparently difficult presentation into a natural one, and effect delivery.

Dr. C. Tate Murphy reported a case of difficult labor, shoulder presentation, in which by changing the position of the mother, delivery was effected without further trouble.

Dr. I. W. Faison reported three cases of reflex phenomena resulting from congenital phimosis, with adhesions of the prepuce to the glans.

In the *first* case the reflex phenomena were weakness in the lower extremities and a stumbling gait. A touch on the prepuce brings about spasm. In the *second* case there was also wakefulness, screaming at night, stumbling and modified paralysis of the muscles of the neck. In the *third* case the symptoms were less marked. Sleeplessness and jactitation were prominent. In each of the cases he broke up the adhesions with his fingers, or dissected them with the the bistoury, a cure resulting in each case.

Dr. R. K. Gregory called attention to ptyalism produced by the use of salicylic acid, and the salicylates. It was to him a new phenomenon, and was worth mentioning more particularly as he had not seen it recorded in any work at his command.

Dr. A. G. Carr, of Durham, exhibited a phosphatic calculus weighing six ounces, removed by the left lateral perineal incision. The original incision had to be greatly enlarged to admit of its passage.

Dr. G. A. Foote, of Warrenton, reported a case of bloodless tracheotomy.

Dr. Richard H. Lewis, of Raleigh, reported a case of syphilitic orbital nodes, pressing on the third pair of nerves causing strabismus.

Most of the remaining morning session was passed in conversational reports of medical and surgical cases, which it was impossible for the Secretary to report:

Dr. Hines introduced the following resolution:

Resolved, That a committee of three be appointed to examine the law establishing the Medical Board of Examiners, who shall select such sections of the law, as they shall think best that the profession and public should be thoroughly acquainted with.

Resolved further, That this Committee be instructed to have all the sections of the law selected by it published in at least six weekly newspapers in the State having the largest circulation, and such other weeklies and daily papers as it may deem best for the information of the public, for at least, three months in the weeklies and one month in the daily papers. To be published before the next annual meeting of this Society. Carried.

The committee appointed to carry out the resolution is composed as follows: Dr. P. E. Hines, Raleigh; Dr. W. T. Ennett, Asheton, Pender county; and Dr. H. T. Bahnson, Salem.

Adjourned until 3 o'clock P. M.

THIRD DAY—AFTERNOON SESSION.

Thursday, May 22, 1879.

The Society was called to order promptly at 9 o'clock.

President Dr. Charles Duffy, Jr., in the chair.

Dr. Eugene Grissom introduced a resolution creating a new Section on Otology and Ophthalmology. Adopted.

Dr. Bahnson, Secretary of the Board of Medical Examiners, introduced the following resolution:

Resolved, That candidates who pass the Board of Examiners at the present session, but too late to be announced to the Society before their adjournment, be declared members of the Society, and be so enrolled. Carried.

The Committee on Nominations made the following report, which was adopted:

To the Medical Society of North Carolina:

The Nominating Committee beg leave to submit the names of the following gentlemen as officers for the year 1879:

For President:
Dr. J. F. Shaffner, Salem.

For Vice-Presidents:
Dr. J. K. Hall, Greensborough.
" W. C. McDuffie, Fayetteville.
" W. R. Wilson, Granville.
" R. F. Lewis, Lumberton.

Treasurer:
Dr. A. G. Carr, Durham.

Secretary:
Dr. L. J. Picöt, Littleton.

Orator:
Dr. Eugene Grissom, Raleigh.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

Dr. F. M. Rountree, Hookerton.
" Charles Duffy, Jr., Newbern.
" H. M. Alford, Greensborough.
" J. J. Summerell, Salisbury.
" Willis Alston, Littleton.
" John McDonald, Washington.
" H. T. Bahnson, Salem.
" W. I. Royster, Raleigh.
" Walter C. Murphy, Clinton.
" Walter Debnam, Earpsborough.
" S. B. Flowers, Mt. Olive.
" P. B. Barringer, Dallas.

DELEGATES TO VIRGINIA MEDICAL SOCIETY.

Dr. W. T. Cheatham, Henderson.
" A. A. Hill, Lexington.
" I. W. Faison, Fulton.
" James McKee, Raleigh.
" N. S. Siewers, Salem.
" C. J. O'Hagan, Greenville.
" Wm. R. Wood, Scotland Neck.
" W. A. B. Norcom, Edenton.

DELEGATE TO AMERICAN PUBLIC HEALTH ASSOCIATION.

Dr. Thomas F. Wood, Wilmington.

PUBLISHING COMMITTEE.

Dr. Thomas F. Wood, Wilmington.
" W. W. Lane, Wilmington.
" W. T. Ennett, Asheton.
" L. J. Picöt, Littleton.

COMMITTEE TO APPOINT ESSAYIST.

Dr. S. S. Satchwell, Rocky Point.
" M. Whitehead, Salisbury.
" W. W. Gaither, Lexington.

COMMITTEE ON OBITUARIES.

Dr. J. K. Hall, Greensborough.
" J. F. Long, Newberne.
" W. T. Cheatham, Henderson.

BOARD OF CENSORS.

Dr. E. Burke Haywood, Raleigh.
" A. W. Knox, Raleigh.
" R. F. Lewis, Lumberton.

Respectfully submittted,

R. L. PAYNE,
H. W. FAISON,
W. C. McDUFFIE,
C. J. O'HAGAN,
JAS. McKEE,
Committee.

SECTIONS.

The President appointed the following gentlemen Chairman of Sections:

Surgery and Anatomy.—Dr. W. C. McDuffie, Fayetteville.
Obstetrics and Gynæcology.—Dr. Wm. R. Wilson, Townesville.
Practice of Medicine.—Dr. James McKee, Raleigh.
Materia Medica and Therapeutics.—Dr. C. Tate Murphy, Clinton.
Microscopy and Pathology.—Dr. Henry Tull, Kinston.
Ophthalmology and Otology.—Dr. R. H. Lewis, Raleigh.

A letter was read by permission from Dr. John McCormick, by Dr. Eugene Grissom. Dr. McCormick sets forth that "diphtheria is modified by measles and scarlatina, as much so as variola is modified by cow-pox," and it is his firm conviction "that the action of measles and scarlatina will be as effectual in rendering diphtheria diphtheroid, as vaccine renders variola varioloid." He hoped the Society would ask that the list takers be instructed by the proper authorities to ask the following questions:

"Have you lost any member of your family from diphtheria?"

"Had the person ever had measles or scarlatina?"

No action taken.

Dr. Chares Duffy, Jr., the retiring President, then delivered his address on "The Conditions Essential to the Propagation and Spread of the Infectious Diseases."

Dr. Charles J. O'Hagan expressed the common sentiment of the Society in its indebtedness to Dr. Duffy for the address just delivered, and moved its reference to the Committee on Publication.

[See Appendix].

Dr. Grissom paid a handsome tribute to the patience, courtesy and ability which the retiring President had performed his duties, and upon his motion a vote of thanks was tendered to him.

The President elect, Dr. J. F. Shaffner, of Salem, was conducted to the chair.

He thanked the Society for the honor done him by this kind act of partiality. He would endeavor to serve the Society to the best of his ability.

Upon the call for nomination for the next place of meeting, Dr. Thomas F. Wood proposed Wilmington, and the 2d Tuesday in May as the day.

There was no opposition and Wilmington was selected by acclamation.

Dr. C. Tate Murphy offered a vote of thanks to the citizens and the medical profession of Greensborough, for their unbounded hospitality. Carried by applause.

Dr. Picöt offered a vote of thanks to the different railroad lines for their generous reduction of fare. Carried.

Dr. Foote offered a vote of thanks to Dr. Benbow for the use of the Hall in which the meetings were held.

On motion of Dr. Satchwell, the Society adjourned to meet in Wilmington on the 2nd Tuesday in May, 1880.

The following is the complete list of

NEW MEMBERS FOR 1879—RECAPITULATION.

Dr. John W. Smith, Reidsville.
" C. C. Peacock, Wilson.
" B. A. Cheek, Greensborough.
" J. A. McLean, McLeansville.
" J. G. Ector, Friendship.
" Hubert Haywood, Raleigh.
" James M. Covington, Rockingham.
" Henry W. Lee, Raleigh.
" W. R. Hollingsworth, Mt. Airy.
" O. P. Robinson, Fayetteville
" C. E. Bradsher, Hurdle's Mills.
" B. W. Thomas, Thomasville.
" S. W. Stevenson, Mooresville.
" H. T. Trantham, Salisbury.
" W. P. Beall, Greensborough.
" Wm. A. Coble, Brick Church.
" A. D. McDonald, Wilmington.
" S. B. Jones, Charlotte.
" Charles M. Glenn, Greensborough.
" Joseph J. Cox, New Garden.
Dr. D. M. Prince, Laurel Hill.
" J. A. Sexton, Raleigh.
" S. B. Evans, Statesville.
" N. Mc. Johnston, Durham.
" J. T. Sledge, Middleburg.
" R. H. Hargrove, Robersonville.
" J. T. Winston, Youngsville.
" H. P. Burgin, Marion.
" C. A. Swindell, Greenville.
" W. L. Abertheny, Hickory.
" John Chapel Walton, ————.
" J. M. Tomlinson, Bush Hill.
" Julian M. Baker, Tarborough.
" T. Eugene Balsley, Greensborough.
" B. G. Harris, High Point.
" A. D. Lindsay, Kernersville.
" J. L. Gunn, Yanceyville.
" Thos. E. Anderson, Statesville.
" C. S. Battle, Rocky Mount.

REVISED ROLL

Of Members in the Order in which they Signed the Constitution.

Those marked * were present at the last meeting. Those marked † deceased.

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Dr. E. Strudwick, Hillsborough.
" W. G. Hill,† Raleigh.
" N. J. Pittman, Tarborough.
" J. B. Jones Charlotte.
" R. B. Haywood,* Raleigh.
" Jas. B. Dunn, Raleigh.
" W. George Thomas, Wilmington.
" S. S. Satchwell,* Rocky Point.
" J. R. Mercer, Tarborough.
" E. B. Haywood, Raleigh.
" Jas. P. Bryan, Kinston.
" A. B. Pierce, Halifax.
" H. W. Faison,* Faison's Depot.
" Allman Holmes, Clinton.
" E. A. Anderson, Wilmington.
" C. T. Murphy,* Clinton.
" Hugh Kelly,* Statesville.
" F. M. Henderson, Concord.
" J. J. Summerell,* Salisbury.
" P. E. Hines,* Raleigh.
" M. Whitehead,* Salisbury.
" J. G. Ramsey, Rowan Mills.
" J. A. Gibson,* Concord.
" R. H. Winborne, Edenton.
" J. K. Hall, Greensborough.
" Geo. A. Foote, Warrenton.*
" W. R. Sharp,† Fulton.
" Eugene Grissom,* Raleigh.
" R. L. Payne,* Lexington.
" F. M. Rountree,* Snow Hill.
" W. A. Collett, Morganton.
" E. F. Ashe, Wadesborough.
" D. B. Woods, Rowan Mills.
" Chas. J. O'Hagan,* Greenville.
" W. A. B. Norcom,* Edenton.
" J. F. King, Wilmington.
" J. W. Jones,* Tarborough.
" J. F. Long,* Washington.
" John K. Ruffin,* Wilson.
" C. W. Knight,* Tarborough.
" J. B. Hughes, New Berne.
" W. W. Gaither,* Lenoir.
" J. C. Gidney, Shelby.
" William Little,* Raleigh.
" Wm. R. Wood,* Scotland Neck.
" S. H. Hicks,* Rocky Point.
" M. T. Savage, Scotland Neck.
" Thomas F. Wood,* Wilmington.
" Thos. C. Powell, Rocky Mount.
" Franklin Hart, Tarborough.
" Geo. L. Kirby, Goldsborough.
" L. A. Stith, Wilson.
" J. F. Shaffner,* Salem.
" G. H. Macon,† Lillington.
" W. T. Cheatham,* Henderson.
" Robt. I. Hicks,* Williamsborough.
Dr. Elisha Porter, Rocky Point.
" Walter Debnam,* Earpsborough.
" F. J. Haywood, Jr., Raleigh.
" C. R. Barron, Toisnot.
" B. P. Alston, Warrenton.
" G. G. Smith,* Concord.
" F. N. Luckey,† Salisbury.
" D. N. Patterson, Mangum.
" Joel G. King, Warrenton.
" J. B. Sugg, Tarborough.
" H. T. Bahnson,* Salem.
" Geo. N. Ennett, Saunders' Store.
" Chas. Duffy, Jr.,* Newbern.
" W. W. Lane,* Wilmington.
" R. L. Cowan,* Rowan Mills.
" R. F. Lewis,* Lumberton.
" Jas. S. Robinson, Elizabeth.
" W. J. Love, Wilmington.
" J. C. Walker, Wilmington.
" David D. Sloan,† Sampson County.
" James McKee,* Raleigh.
" L. L. Alexander, New Hanover Co.
" Willis Alston, Littleton.
" W. J. H. Bellamy, Wilmington.
" Geo. F. Lucas, Point Caswell.
" Walter Brodie, Whitaker's.
" A. S. Jones, Warrenton.
" H. Otis Hyatt,* Kinston.
" J. L. Knight,* Tarborough.
" C. S. Killebrew, Tarborough.
" W. T. Ennett,* Rocky Point.
" D. McL. Graham, Point Caswell.
" W. I. Royster, Raleigh.
" George Fields, Warrenton.
" C. G. Cox† Richlands.
" G. Gillett Thomas, Wilmington.
" V. N. Seawell, Wallace.
" Geo. S. Attmore, Newbern.
" S. B. Flowers,* Mt. Olive.
" P. W. Young, Oxford.
" John McDonald, Washington.
" Francis Duffy, Newbern.
" L. L. Staton, Tarborough.
" T. B. Germon, Ridgeway.
" A. G. Carr,* Durham.
" John A. Allison, Statesville.
" J. B. Gaither, Salisbury.
" J. M. Hadley,* La Grange.
" W. G. Johnson, Farmington.
" W. J. McLinder, Wadesborough.
" Josh. W. Vick,* Selma.
" Isaac C. Green, Warrenton.
" P. L. Murphy, Wilmington.
" Joseph Graham,* Charlotte.
" J. M. Miller, Charlotte.
" J. L. Henderson, Mt. Pleasant.

Dr. J R. Wilson, Harris' Depot.
" Richard Anderson, Albermarle.
" J. S. Blair, Harris' Depot.
" J. F. Miller, Goldsborough.
" S. J. Alexander, Randalsburg.
" H. K. DeArmand, Pineville.
" J. P. McCombs,* Charlotte.
" T. S. Duffy,† Rutherfordton.
" O. P. Houston, Mt. Ulla.
" S. J. Gilmer, Concord.
" John Fink,* Concord.
" W. H. Lilley,* Concord.
" Thomas J. Moore,* Charlotte.
" E. S. Foster,* Louisburg.
" A. A. Hill,* Lexington.
" J. H. Baker, Tarborough.
" J. B. Hall, Scotland Neck.
" J. M. Richardson, Lincolnton.
" T. D. Haigh,* Fayetteville.
" Alex. Montague.
" L. J. Picot,* Littleton.
" David N. Sills, Castalia.
" John A. Drake, Battleborough.
" W. C. Murphy,* Magnolia.
" W. J. Cooke, Louisburg.
" E. J. Thorpe, Rocky Mount.
" Joshua Taylor,* Tarborough.
" D. W. Bullock, Tarborough.
" W. H. Whitehead, Battleborough.
" C. W. Eagles, Sparta.
" R. A. Sills, Nashville.
" R. H. Speight, Tarborough.
" C. E. Moore, Battleborough.
" H. G. Land, Poplar Branch.
" R. J. Grimes, Robersonville.
" W. C. McDuffie,* Fayetteville.
" B. W. Robinson, Fayetteville.
" P. S. Peteway, Enfield.
" J. A. McRae, Fayetteville.
" Henry Tull,* Kinston.
" A. V. Budd, Egypt.
" R. R. Robeson, Kyles' Landing.
Dr. M. J. DeRossett, New York City.
" W. A. Murdock, Mt. Ulla.
" James W. McNeil, Fayetteville.
" J. D. McMillan, Lumberton.
" W. H. McKinnon, Fayetteville.
" Jos. Hollingsworth, Mt. Airy.
" Robert W. Glenn,* Greensborough.
" Beverly Jones,* Forysthe County.
" Adam E. Wright, Wilmington.
" Nat. S. Henderson,* Pelham.
" Jeff. Scales,* Reidsville.
" Geo. W. Long,* Graham.
" Richard H. Lewis,* Raleigh.
" Geo. W. Graham, Raleigh.
" Preston Rowan, Winston.
" J. D. Roberts, Magnolia.
" L. H. Hill,* Germanton.
" J. A. Bitting, Germanton.
" W. W. Wilhelm, Mooresville.
" W. R. Wilson,* Townesville.
" E. Nelson Booker, Clayton.
" N. S. Siewers, Salem,
" L. G. Hunt, Huntsville.
" Jas. E. Griffith, Clemmonsville.
" W. P. Mallett,* Chapel Hill.
" H. M. Alford,* Greensborough.
" F. W. Potter, Smithville.
" J. F. Harrell, Whiteville.
" W. P. Exum, Wayne County.
" D. Stuart Lyon, Charlotte.
" A. M. Lee, Clinton.
" J. R. McClelland,* Mooresville.
" Peter McLean,* Shoe Heel.
" Richard J. Noble, Selma.
" Wm. H. H. Cobb, Goldsborough.
" J. H. Tucker, Henderson.
" C. G. Bryant, Rich Square.
" E. H. Hornaday,* Willow Green.
" Paul B. Barringer,* Dallas.
" I. Wellington Faison,* Fulton.
" R. K. Gregory,* Greensborough.
" John A. Pollock, Kinston.

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HONORARY MEMBERS.

Dr. W. T. Howard, Baltimore, Md.
" Otis F. Manson, Richmond, Va.
" R. H. Dillard, Edenton, N. C.
Dr. F. D. Lente, Cold Springs, N. Y.
" John H. Hill, Goldsborough, N. C.
Prof. Lewis A. Sayre, M. D., New York.

OFFICIAL LIST OF CANDIDATES LICENSED BY THE STATE BOARD OF MEDICAL EXAMINERS.

The Board of Medical Examiners of the State of North Carolina, at its session held in Greensborough, May 19th to May 22d, 1879, examined forty-one applicants for license, of these thirty-six were found duly qualified, and received license to practice medicine in its various branches, as follows :

Dr. W. P. Beall, Greensborough.
" Charles M. Glenn, Greensborough.
" S. W. Stevenson, Mooresville.
" W. J. Gilbert, Wayne County.
" D. M. Prince, Laurel Hill, Richmond County.
" H. T. Trantham, Salisbury.
" W. F. Cook, Guilford County.
" C. E. Bradsher, Hurdle's Mills, Person County.
" E. A. Speed, Person County.
" James M. Covington, Rockingham.
" H. W. Lee, Raleigh.
" J. A. Sexton, Raleigh.
" W. L. Abernethy, Hickory, Catawba County.
" Cornelius L. Battle, Rocky Mount.
" J. C. Walton, Caswell County.
" H. F. Burgin, Marion, Buncombe County.
" R. H. Hargrave, Robersonville, Martin County.
" T. E. Anderson, Statesville.
" Hubert Haywood, Raleigh.
" Turner E. Balsley, Greensborough.
" S. B. Jones, Charlotte.
" Edward Lindsay, Greensborough.
" O. P. Robinson, Fayetteville.
" W. P. Mercer, Wilson County.
" J. J. Cox, Guilford County.
" W. R. Hollinsworth, Mt. Airy, Surry County.
" A. D. McDonald, Wilmington.
" J. M. Baker, Tarborough.
" R. A. Freeman, Alamance County.
" J. L. Gunn, Yanceyville, Caswell County.
" C. A. Swindell, Greenville, Pitt County.
" W. G. Stafford, Orange County.
" N. Mc. Johnson, Durham.
" J. T. Winston, Youngsville, Franklin County.
" J. T. Sledge, Middleburg, Warren County.
" B. G. Harris, Guilford County.

Signed, HENRY T. BAHNSON, M. D.,
Secretary Board Med. Examiners of North Carolina.

SALEM, N. C., June 2d, 1879.

The Board of Medical Examiners of the State of North Carolina will hold its next session in Wilmington, on Monday before the 2d Tuesday in May, 1880. The following is the order of examinations :

Surgery.—Dr. P. E. Hines.

Physiology.—Dr. T. D. Haigh.

Practice of Medicine and Pathology.—Dr. R. I. Hicks.

Obstetrics, &c.—Dr. Joseph Graham.

Materia Medica and Therapeutics.—Dr. Thomas F. Wood.

Chemistry and Pharmacy.—Dr. G. L. Kirby.

Anatomy.—Dr. H. T. Bahnson.

HENRY T. BAHNSON,
Secretary Board Med. Examiners of North Carolina.

SALEM, N. C., June 2d, 1879.

MEETING OF ORGANIZATION OF THE NORTH CAROLINA BOARD OF HEALTH.

The North Carolina Board of Health met in the McAdoo house, Greensborough, May 21st, 1879, for the purpose of organizing.

Present : Drs. M. Whitehead, Salisbury ; R. L. Payne, Lexington ; George A. Foote, Warrenton ; S. S. Satchwell, Rocky Point; C. J. O'Hagan, Greenville ; A. R. Ledoux, Ph. D., Chapel Hill ; Dr. Thomas F. Wood, Wilmington.

Dr. M. Whitehead, was called to the chair.

The ballot for officers resulted as follows : For President, Dr. S. S. Satchwell, received 4 votes, and Dr. M. Whitehead 2 votes.

Dr. Satchwell was declared elected President to serve two years.

For Secretary and Treasurer, Dr. Thomas F. Wood, received 6 votes. Dr. Wood was declared elected Secretary and Treasurer to serve six years.

The following resolution was introduced by Prof. A. R. Ledoux :

Resolved, That the execution of the Board of Health Law be entrusted to the Secretary,—the details of its provision being under his management,—and that the Secretary make his report to the next meeting of the Board. Carried.

Upon motion of Professor Ledoux, a committee was appointed to confer with the Department of Agriculture, to make arrangements for the chemical investigations by this Board.

The President appointed Dr. Thomas F. Wood, Dr. George A. Foote, and Prof. A. R. Ledoux.

Names of the members of the North Carolina Board of Health.

S. S. Satchwell, M. D., President, Rocky Point, Pender County.

M. Whitehead, M. D., Salisbury.

C. J. O'Hagan, M. D., Greenville.

R. L. Payne, M. D., Lexington.

Geo. A. Foote, M. D., Warrenton.

Thomas F. Wood, M. D., Secretary, Wilmington.

Prof. A. R. Ledoux, Chemist, Chapel Hill,

Major William Cain, Engineer, Charlotte.

Henry G. Woodfin, M. D., Franklin, Macon County.

Board adjourned to meet in Wilmington, N. C., on the 2d Tuesday in May, 1879.

THOMAS F. WOOD, M. D.,
Secretary.

CORRECTION.

Members not present or dead, but marked present.

R. B. Haywood, J. J. Summerell, J. A. Gibson, (dead) W. A. B. Norcom, J. W. Jones, C. W. Knight, William Little, J. H. Hicks, H. Otis Hyatt, J. L. Knight, S. B. Flowers, J. M. Hadley, Josh. W. Vick.

CHARLES DUFFY, JR., M. D.,
President Med. Society North Carolina.

L. J. PICÖT, M. D.,
Secretary Med. Society of North Carolina.

THE CONDITIONS ESSENTIAL TO THE PROPAGATION AND SPREAD OF THE INFECTIOUS DISEASES.

Address delivered before the Medical Society of North Carolina, at Greensborough, N. C., May 23, 1879, by the retiring President

CHARLES DUFFY, JR., M. D., Newbern, N. C.

Gentlemen of the Medical Society of North Carolina:

In selecting as the subject of my address on this occasion, "The Conditions Essential to the Propagation and Spread of the Infectious Diseases;" I am actuated by a sense of the vast importance of the subject not only to ourselves, but to humanity at large: important to ourselves, because of the disappointment and failure that attend our efforts to check and subdue these diseases; important to humanity, because of the immense rôle they play in the cause of suffering and misery and in the destruction of human life. A few years service in the medical walks of life is sufficient to convince the most sanguine, of our utter weakness in the presence of almost all of these diseases; we know they defy us, and we soon become to accept the conviction of most of our intelligent confréres, that it is folly for us to try to cure them, that we may even do more harm to our patient in the attempt to cure, than we do good. How many vaunted remedies in the last few years have we proved worthless in diphtheria, in yellow fever, until now we regard it as an insult for an educated man to ask us to believe he can fabricate a potion or a pill that can quell the storm set up in the organism by the germs of these diseases!

Checked then, on the very threshold of our attempt to cure, it is high time we should change our line of action in regard to these diseases, and that line from my standpoint, should be made to lead in the direction of preventive medicine.

The time has seemed to come at last, when it is no longer necessary that we should importune our law-makers to enact laws to protect themselves and their constituents from pestilential scourges.

A voice of awful impressiveness has spoken and the nation has awaked from its fatal slumber. Health measures have already been inaugurated at the National Capitol, and let us hope they will be commensurate with the requirements of the occasion. In the successful issue of these measures every true physician must be deeply

interested, and it behooves him to this end to give his unremitting aid and effort. With the purpose of invoking this aid and effort, I submit these remarks.

Perhaps the most important step in this departure and one destined to influence it in no small degree, was the promulgation of the theory, "That the matter which produces epidemic diseases, comes always from a parent stock." This theory seems of late years to have become the growing conviction of almost all scientific minds, in fact, it is well nigh become to be the established belief, that a specific disease must of necessity have for its origination a specific principle (germ). This principle, though we may be incapable of demonstrating it and able to recognize it only in its outward manifestations, is doubtless, nevertheless, invested with some of the properties of life; those which most nearly concern us being the properties of growth and self propagation.

Now, if these germs are living entities and capable of originating certain diseases, it follows that the essence of the developed disease is the developed or perfected organism, the result of the germ; otherwise, no perfected organism, no subsequent germ; therefore the race of such organisms together with the diseases they produce would die out. Granted, these propositions, and we have the following formula: Given the living specific germ and the necessary conditions of its development; the resultant is, the developed specific disease.

Before proceeding further, I desire it to be understood that these remarks refer specially to the contagious and miasmatic contagious divisions of the infectious diseases after Liebermeister's definition, and further, that it is not my purpose to refer to each and all of them, but simply to use enough of the accumulative facts in regard to them, to answer my purpose in elucidating the subject before us.

First as to Germs:—That they vary materially as to characteristics and attributes must be apparent to every one. Every farmer knows the difficulty of preserving his seed potatoes for a longer period than one year, his cotton seed for a longer period than three years, while corn and other grain may be kept sound for a much longer period of time. A grain of wheat is said to have germinated after being kept in the hand of an Egyptian mummy for one thousand years. The seeds of noxious weeds will preserve themselves without any

one's care against all manner of vicissitudes and spring up vigorously when the conditions favorable for their germination and growth present themselves. Again some plants furnish very much larger quantities of germs than others, and on this account have a very material advantage in the struggle of life. And so it must be with the germs of disease, some being capable of enduring much greater vicissitudes and some able to retain their vitality a much longer time than others. Biologists tell us they always come from a parent organism, that they are possessed of "long enduring dormant vitality" in contrast with the fleeting vitality of the perfected organism: that they are capable of enduring very low and very high degrees of temperature and that they are possessed of that singular attribute known as "variation" or "sporting" whereby one disease may be the sport from another as diphtheria from scarlet fever, and it does not seem unreasonable to assume they may be capable of hybridizing, very many familiar instances of which present themselves not only in the animal but in the vegetable kingdom. But germs of themselves, notwithstanding this array of troublesome attributes, are innocuous, and would remain dormant forever, if perpetually divorced from their developing conditions which we will now briefly consider. These we may divide into two groups, viz.: the one pertaining to the contagious diseases, the other pertaining to the miasmatic contagious diseases.

In the first group we have the "bed" for germination and development of infective principle, (which for want of a better term we will call *individual susceptibility*) and the means of contact or communication, whereby the germs gain access to, or become planted in the bed. The other group comprises together with the conditions assigned to the first group, those extraneous or outside conditions embraced in the term "miasmatic," which are so numerous and in many instances so remote from apprehension as to preclude them from more than a mere suggestion as to their nature. But difficult as they are of being apprehended—as, for instance, those which perfect the diphtheria germ—they are none the less important, whether considered with reference to the part they play in the propagation of disease, or to the light, the study of them promises to throw on State Medicine. In illustration, let us take the yellow fever germ and bring it in the presence of the unprotected subject:

here we have germ, susceptibility, and medium of impact, competent conditions in the production of the directly contagious diseases; but these alone seem insufficient in the case of yellow fever. They (the germs of yellow fever) must fall within a certain altitudinal limit, within a certain degree of temperature, in a certain density of population and probably within a certain degree of humidity, in order to "bear fruit an hundred fold." Again typhoid fever and diphtheria seem not to be influenced in their spread by any one of these outside conditions; they invade alike the crowded city and the sparsely settled country district, the mountain top and sea level. Sometimes prevailing in winter, sometimes in summer; at the same time they violate the most important laws of the directly contagious diseases, frequently attacking a single individual of a large number seemingly exposed and at other times arising as though spontaneously, in some out of the way place where it would seem there had been no possibility of importation of their germs. These inconsistencies perplexing as they appear are not altogether beyond the pale of reconciliation and will be referred to again presently.

We now approach an exceedingly interesting part of our subject, but one beset with difficulties on every side. We turn again to germs, and inquire, 1st. At what stage of their development do they acquire the quality of being infectious? The rational answer to this question would seem to be, about the time of the subsidence of the disease that furnishes the germ, as it would seem probable that germs of whatever nature, for the most part, only acquire the quality of the reproductiveness after the subsidence of the process upon which their existence depends. But there are probably exceptions to this rule, as according to Niemeyer "measles is most infectious in the stage of eruption," and probably somewhat so even in the prodromal stage. Hydenreich's experiments with the blood of relapsing fever patients show that the blood is only infective during the paroxysm. The infection of small pox becomes active about the time the contents of the vesicles "begin to turn cloudy," but it is hardly probable the germs at this stage are migratory, the point of chief interest from the prophylactic side of the question. There are, no doubt, many other exceptions to this rule, which observation, may ere long find out and turn to useful account in our dealings with these disorders. 2d. How long do germs retain their power of self-propagation, when subjected to ordinary climatic

vicissitudes, or in other words, how long a time should elapse after the subsidence of an epidemic, before it would be safe for unprotected persons to reside in such infected locality? Future observations must decide this question in regard to most of the infectious diseases. The yellow fever germ in our climate continues active until subjected to a temperature below 32° F. Koch in his splendid researches on the pathology of splenic fever found that the rods or perfected organisms of the bacillus anthracis "had only a comparative fugitive vitality; they lost their infective power generally in a few days, at the most, in about five weeks. But the spores retained their infective activity for an indefinite period in spite of all kinds of maltreatment. They could be reduced to dust, wetted and dried repeatedly, kept in putrefying liquids for weeks and yet at the end of four hours they still displayed an undiminished virulence." The germs of most of the eruptive fevers, although not influenced by ordinary variations of atmospheric temperature seem incapable of enduring outside exposure for any great length of time, probably a few weeks is sufficient to deprive them of their virility, while the infective principle of typhoid fever and diphtheria often retain their latent vitality for a great length of time. For example, an unprotected person returning to a locality in which small-pox had been epidemic, but which had subsided a few weeks before, is not in much danger of contracting the disease, provided he is careful to avoid such places and things as afford protection or shelter to the germs. Whereas, typhoid fever and diphtheria once gaining foothold in a community may continue indefinitely liable to infect the inhabitants though the outbreaks be at very considerable intervals of time. 3d. What are the favoring conditions for the preservation or prolongation of the activity of germs? To begin, we find protective material in abundance about the apartments of the patient: his clothing from hat to boots, his boxes, trunks, drawers, books, toys, carpets, wall-paper, etc. It is well known that the clothing of a small pox patient may be put into a box from which air or moisture are excluded, and the germs contained therein preserved in all their virulence for years. A crust of vaccine virus sealed in a flask from which septic bacteria are excluded will retain its power of communicating cow-pox almost indefinitely, whereas, when exposed to the atmosphere, and particularly a moist atmos-

phere it will lose this power in a few days or weeks. In scarlet fever it is probable the shedding epithelium is preservative and in some diseases as typhoid fever, epidemic dysentery, cholera, yellow fever, the dejecta, vomited matters, etc. Water is probably protective to the infective matters of typhoid fever and by many is believed to be the principal carrier of the contagion. An interesting account of an epidemic of typhoid fever published some years ago in the London *Lancet* traced its origin to a pasture that had been manured with sewer products. The milch cows supplying a certain dairy were grazed on this pasture, from this dairy it was found all the fever patients had used the milk, while persons living in the same district who did not use it escaped the disease.

Dr. Folsom, (State Board of Health, Massachusetts, 1876,) quoting Dr. Mapother, of Dublin, says: "Forty cases of typhoid fever occurred in a hospital which received its water supply from a river. The cause was traced to some barracks twenty-five miles higher up, from which typhoidal dejections had been emptied through drains into the river." The protective influence of sewerage has been well demonstrated by the English Rivers Pollution Commission, which reports after careful and ingenious experimental investigation, "It is thus evident that so far from sewage mixed with twenty times its volume of water being oxydized during a flow of ten or twelve miles (as taught by Dr. Letheby) scarcely two-thirds of it would be so destroyed in a flow of one hundred and sixty-eight miles at the rate of one mile per hour or after the lapse of a week." But the conditions, par excellence, for the preservation of the dormant vitality of germs are to be found in our manner of disposing of the bodies of those who have died of infectious diseases. During the lifetime of the patient, we may have been assiduous in our employment of disinfectants and parasiticides, we may have kept the atmosphere of his room in such condition that it was impossible for infective matter to have retained its virulence for one hour, but what do we do with his body after death? Teeming with myriads of germs we consign it to mother earth from which we get all our food and drink and through which circulates, according to Pettenkofer, a large proportion of the air we breathe. In the language of the farmer we "house" these germs carefully protecting them by means of metallic cases, etc., from the natural

agents of their destruction. Thus entrenched, they are secure to go forth, when the occasion offers, on their mission of death and dismay. When this death dealing influence may subside no man can tell. "The plague is said to have broken out a fresh after a hundred years in consequence of the reöpening of a plague pit," and who would venture to deny that the germs of yellow fever, of typhoid fever, of diphtheria, and others, may be capable of retaining, when thus protected, their disease—producing characteristics for years and years, ready, when no man is suspecting, to spring into terrible virulence upon presentation of their necessary conditions! In the *Fragments of Science*, Professor Tyndall reminds us that Dr. Starr, of Liskeard, about the year 1758 described diphtheria under the name of morbus strangulatorius "as then severely epidemic in Cornwall. This fact is the more interesting, as diphtheria in its more modern reäppearance again showed predilection for that remote country."

We are now ready, it seems to me, with the explanation of the apparent inconsistency of the doctrine, that a disease, whose origin must be invariably from a germ furnished by a parent organism, may originate, nevertheless, without the necessity of importation. When I say importation, I wish to be understood to apply the word in the sense it is generally used in this connection, and to imply that the source from which importation is effected, is traceable. For my purpose we require germs capable of retaining for a long time their vitality in a dormant state, and such protection as would appear to be afforded them by the burying process. It is no great stretch of the imagination to see, so to speak, the ultramicroscopic germ, which may have been buried by a preceding generation, lashed by the passing current of air or water—one or other of which is in constant circulation round about it—until teased from its moorings, it floats out on the tide, and conveyed by means of the air we breathe or the water we drink or the food we eat, it lodges in the lungs or stomach of the susceptible individual, from whence it gains access to the blood, there to enter upon the mysterious processes of incubation, maturation, etc., which end at last in those manifestations which are to declare the spontaneous outbreak of an epidemic disease.

If we can accept this explanation there is no longer any reason

for surprise at so-called spontaneous outbreaks of contagious diseases. The expression may be construed to imply that germs long dormant, perhaps, furnished by past generations, have worked their way through opposing media and joined the conditions necessary to the development of their power of self multiplication and reproduction, and hence the resultant disease.

The law of variation or sporting may also have a share in this explanation. My friend, Dr. W. R. Wilson, some time ago related to me an instance that came under his observation which is singularly suggestive: The father of a family left home a few days after the confinement of the mother—father, mother and all in good health. Three or four days after leaving home, during which time he was traveling through the country, he was seized with a severe erysipelas from which he barely escaped with his life. During the first week of his illness he received intelligence of the death of his wife from puerperal fever. Within three weeks from the time of this gentleman's seizure and at the house where he was confined, three cases of diphtheria occurred. Dr. Wilson believes that all these cases originated from the same source of infection.

In disarrangement of susceptibility and in disarrangement of extraneous conditions, may be found the explanation of the difficulty of understanding why these diseases may attack a single individual of a large community exposed. Extraneous conditions, like susceptibility, may be exhausted in some instances and consequently necessitate a break in the spread of the disease until they can be renewed.

Our study of susceptibility brings us in the presence of some very remarkable facts which bear on the subject under consideration. Dr. Roberts says: "There is nothing in all nature more wonderful than the intricate and subtle nexus which unites a parasite to its host. A hundred examples might be given. Even different varieties or races of the same species have different and exclusive parasites. It would seem as if nexus depended on some delicate shade—a *nuance*—something like an odor or savor, or a color rather than on differences of structure or chemical composition. The same minute correlation is seen in specific contagia, all are strictly confined to one or a few species. Vaccinia is confined to man, the horse and the cow; scarlet fever is confined to man, and, perhaps, the swine;

most of our specific diseases are absolutely confined to man. The human and ovine small pox, although so wonderfully similar, are not intercommunicable." The Chinese and the negro seem to have little or no susceptibility to the infection of yellow fever, and the Chinese is said to be almost free from susceptibility to diphtheria. We are all familiar with the influence age exerts on susceptibility to some of the infectious diseases. More wonderful than all is that immunity conferred on the subject, by a previous attack of some of these diseases. To bring an unprotected person within the influence of the contagion of measles, is to subject him to the probability of an attack of the disease; while a protected person, which means one who has suffered a previous attack, is safe from a subsequent attack, though his power of resistance of ordinary morbific influences may have been reduced to the lowest ebb by previous disease, by starvation, etc. Now it is evident, though we cannot appreciate the change that has taken place in such a person, that a most important change has been wrought upon the molecular constituents of his body, and that these molecules are endowed with the power of transmitting this protective influence to the succeeding colonies of molecules which come to take their places in the economy—"like changing sentinels, (the atoms) that depart, seem to whisper their secret to their comrades that arrive." Thus, an attack of such disease contracted during infancy is competent to protect the organism from a repeated attack, during the whole life time of the individual. But this protective influence is not transmissible, for the children of protected parents are as liable to the ravages of the disease, as the children of parents who have not been so protected. This, we cannot but wish had been otherwise; but it does seem a great hardship to a large proportion of the human race, that the molecular change wrought by syphilis in the organism and which entails this disease upon the children of syphilitic parents, has not been made subject to a similar law, that by such reversal of the order of things, these children might be left an equal chance in the struggle of life, with those of non-syphilitic parents. Now, it is folly for me to insist in this presence, that immunity from contagion is the result of an important change that has taken place in the system in the one instance, or of a very singular variation of the usual susceptibility in another instance, the rationale of which

so far as successfully eluded the human understanding. But let us hope it will not continue to be "past-finding out." For one, I believe there is no limit to the possibilities of progress, and I confidently look to the future for the accomplishment of the task of opening up to our understanding this most difficult of difficult problems. The value of such accomplishment to the department of preventive medicine, beggars computation. Could we but understand and control susceptibility to disease; germs would be shorn of all their terrors, they would, indeed, fall "by the wayside" and be "trodden down."

In our study of extraneous or outside conditions we are to take into consideration the "great chapters of air, clothing, dwelling, ventilation, heating, lighting, building-places and soil, their relation to air and water and their influence on the course of disease, drinking water sources of its contamination and its distribution among the population, alimentation and food, the maintaining of different classes of men under different circumstances, the collection and removal of excrementitious matter, and refuse from households and trades, drainage:" dead bodies, their inspection with reference to the manner in which they should be disposed of; unhealthy trades and manufactories; schools, barracks, prisons, asylums, hospitals, etc.: contour of the earth's surface with respect to its undulations; forests, their influence on climate and on the spread of infectious diseases; race, nationality, heredity temperament and idiosyncracy; age, occupation, customs; increment of population with respect to its tendency to pollution of streams and destruction of forests; agencies instrumental to the importation of infectious matter, and all other agencies and perturbations which furnish media for the propagation and transmission of disease, and which tend to lessen the power of resistance to ordinary morbific influences. This mere glimpse into this domain of science, though but an earnest of the immense work the future has in store for the representatives of preventive medicine, is as much as the intended limits of this paper will allow just here; in another place an example will be introduced to illustrate and give more definite shape to these vague and general suggestions.

You are now, doubtless, ready with the inquiry, what good is to come out of all this talk about conditions essential to the pro-

pagation of infectious diseases? What useful lesson is it expected to teach?

Turning to our summary of these conditions, we find we have to deal with, 1st. Living germs; 2d. Susceptibility; 3d. Media of communication; and, 4th. Outside or extraneous conditions. If we are satisfied these are the terms and the only terms upon which infectious diseases have their existence, the practical lesson taught by inquiry into their nature is, that to arrest and prevent the spread of such diseases, our efforts must be, to destroy germs or deprive them of their virility, to abolish or modify susceptibility, to neutralize media of communication, and to diminish the fertilizing power of outside conditions.

For guidance as to *how* this is to be done, we are obliged for the most part to look beyond the present to that future which holds out the promise of enlightment to those who patiently and perseveringly dig into the mines of its hidden treasures. Faint glimpses occasionally visit us which foreshadow the great wealth of those mines, but let us not be too hasty in our interpretation of them, or in fixing their value; for instance, we have heretofore thought yellow fever germs were invariably destroyed when subjected to a temperature below 32° F.: and upon this supposition the government has appropriated funds for building a refrigerator to be used with the purpose of destroying them; but recent disclosures from the U. S. Steamer Plymouth necessitates a more cautious acceptance of this doctrine. Very high temperature is destructive of all germs. This being true, have we not a great resource in *cremation of the bodies of those who die of contagious diseases?* Here we have in a compact bundle, myriads of germs in our power without the possibility of their escape; and if there were no other grounds than these upon which to base its claims, they alone are sufficient to give to cremation a prominent place among the measures potent in the arrest and prevention of these diseases.

In regard to the various drugs used for the destruction of parasites, although I do not feel willing to ignore them, I have no convictions to urge. True, if we have only a box of clothes, or a close room, or the hold of a vessel to disinfect the task does not seem so great, but when our undertaking is with the whole outside atmosphere, a difficulty confronts us, which, with our present appliances, seems altogether insurmountable.

Of susceptibility, I can only refer to the great work of the immortal Jenner, who well nigh robbed small pox of its terrors, and whose example should ever serve as our incentive to press on in the direction he has pointed out to us. There may be a slight gleam of light on this subject from the antagonism of diseases, as, for example, the antagonism of emphysema to phthisis. I would here remind you of the supposed antagonism of measles to diphtheria, as suggested by Dr. McCormack in a letter to Dr. Grissom, which was read in this hall on day before yesterday.

Lister's method probably furnishes our best guide post on the way of our duty in medium of communication. He simply erects a barrier between septic germs and the bed in which they delight to grow; his efforts to destroy germs, go no further than to fight off those which threaten to invade, while he is engaged in the erection of his barrier. The various respirators which have been suggested, even if they accomplished their purpose are only operative against atmospheric communication; whereas, the great channels of food and drink are left open for the ingress of germs. "A thin board partitition seems to have stopped (yellow fever) on Governor's Island in 1856," and the city of Newbern furnishes an instance of a family of ladies escaping the disease by residing persistently on the third floor of their dwelling during the prevalence of yellow fever which visited us in 1864. These ladies inform me, their mother made a similar escape during the epidemic of 1811.

But probably the most reliable barrier we can put between germs and susceptibility, is distance, which should be sufficiently great to insure against the possibility of infectious contact. This is imperative for two important reasons. 1st. That we may deprive the contagion of material through which it may spread and thereby reach distant communities. 2d, for the preservation of those of the infected community, who may not already have contracted the disease, and who could only escape by being sent away from such infected district. Akin to this barrier, is that attempted to be supplied by the various systems of quarantine which probably furnish our most available means of protection against most of the contagious diseases.

In extraneous conditions, while a most important work, in order to make any systematic inroads upon them, would be to put together

into groups such as appear to be essential to supply the necessary virulence to a given germ, whereby it gains the power of migration and self-propagation, (e. g. yellow fever group, temperature, moisture, altitudes, crowd) and then deal with each group specifically, I shall be compelled in our paucity of data to recommend the simpler method of considering them under the one comprehensive group of local conditions, assigning to each member of which, its supposed importance as a factor in the diseases under consideration. As it is impracticable here, to attempt anything like a comprehensive treatise of the subject, I beg to submit in illustration of my plan a single head of this group, viz. : *increment of population* and its sanitary application, with the exhortation, *Ab uno disce omnes.*

From increment of population we infer crowd, destruction of forests, pollution of streams, and other sources of water supply, etc. It is evident we cannot too early give direction to our efforts to counteract the absolutely certain tendency to growth of these conditions as a consequence of increase of population. Crowd is essential to the spread of almost all the infectious diseases, and as it cannot be prevented, it will require the exercise of all our ingenuity to divest it, as far as may be of its baleful influences. To this end our care should be to secure pure air and water, wholesome food; in a word, to secure the best possible hygienic surroundings compatible with locality, etc. It is needless to remind you of the part our forests play in the economy of nature, their necessity to the perfection of animal life, their effects upon climate, their influence on the spread of epidemics. Steadily and rapidly they are disappearing before the march of population.

We cannot too soon determine how much more of them we can spare, and raise our voices against their reckless waste and destruction. Again, the pollution of streams and other sources of water supply, is the inevitable consequence of increment of population, provided, we do not alter our present system of disposing of garbage, sewage, etc. If we are to "take, therefore, no thought of the morrow" with regard to these matters, it does not require any great acuteness of prevision, to see our posterity a few generations in the future burdened beyond endurance, with these, our sins of omission and commission ; and to him whose ears are deaf to the warnings that go up now and then from the English Rivers

Pollution Commissions and from other sanitary commissions, may come the self-accusation, "*In me all posterity stands cursed.*" The word prevention implies *timely* action, we have no time to lose. These agents of our destruction may work silently, but they work incessantly; even their periods of repose, may be but periods in which they gather increased strength and force to renew their desperate work of death and dismay.

Let us organize and set about our preparations for defence against these death-dealing agencies. Our work is to strive to make ourselves acquainted with all their mysteries and intricacies, to extort from them their secret methods, which can be done only by diligence and perseverance. To us, is specially delegated the privilege to lead and direct in this great movement. To us, belongs the task of arousing the public, indifferent because of their occupation with other matters, to a sense of the danger that encompass them. Upon us rests the task of their education and enlightenment, to the end that they fulfill creditably, the part in the work, that of necessity belongs to them.

Byron has beautifully said "Words are things: and a small drop of ink falling like dew upon a thought, produces that which makes thousands, perhaps, millions, think." How great my recompense could I but feel, that imprisoned here among these drops of ink, were one incarnate thought with which to break the recusant silence that hangs around the mysterious confines of my subject!

And now, gentlemen, I bid adieu to the exalted position your partiality bestowed upon me. At no time since the beginning of my administration have I been devoid of the sense of my great responsibility; at no time have I been free from a distrust of my ability to fulfill acceptably its requirements. In these, your never varying kindness to me on all occasions has been my stay and support; for this kindness and for your generous patience with me on this occasion, I return my heartfelt thanks.

ROTATION OF THE HEAD WITHIN THE BLADES OF THE FORCEPS.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 21st, 1879.

By T. D. Haigh, M. D., Fayetteville, N. C.

Having, some years ago observed, in the first case in which I found it necessary to apply the forceps at the superior strait, that rotation took place within the blades of the forceps, I was led to investigate more fully the whole subject.

In this case I had applied the blades, I certainly thought, to the occipito-frontal diameter and when the child was delivered to my surprise the forceps were applied to the parietal surfaces. An examination proved that my diagnosis of presentation was correct, and that the forceps had been applied originally, just behind the ear posteriorly and over the brow anteriorly, for the marks of the forceps were perfectly plain at both points. How then, and when did the change of position occur?

I remembered that after I had succeeded in overcoming the resistance at the superior strait and the head was advancing under traction, (the uterus now contracting efficiently), there was an inclination of the blades to twist and separate from below—above. Fearing the forceps might slip, I readjusted them, and making only the slightest traction without any forcible compression, allowed the expulsive efforts to go on with very little aid; very soon there was less tendency to separation of the blades, and resuming more generous traction, the child was delivered without further difficulty. Undoubtedly, I reasoned, here was the point of change, the head rotating within the blades, while I was looking for rotation of head and forceps together.

It rarely occurs to a practitioner in a town of 5,000 inhabitants to meet with more than one case where the forceps have to be applied at the superior strait.

Dewees in an experience of 40 years only met with six cases. In truth, in his day it was considered an exceedingly dangerous operation. Even Prof. Meigs contends against the application unless the head has descended well within the bones of the pelvis, "since (he

says) the forceps is designed for the side of the head," p. 531, "a man can hardly be justified who inserts his forceps within the os uteri," which, of course he will have to do at the superior strait, and, as a general rule, at the inferior strait as he virtually acknowledges, for he and other writers on the subject are exceedingly careful in giving special directions to guard the os with one hand while passing the blades, lest they thrust the blades through the vaginal cul de sac. Under these impressions, of course, Meigs says nothing of rotation within the blades.

Ramsbotham speaks more in accordance with the present ideas in regard to the application of the forceps: "the application must be made in the axis of the strait along the sides of the pelvis—*but after the head has passed down*, and then, if needs be, substitute the short forceps, i. e., if rotation has been prevented by too powerful compression, remove the long forceps and while you are getting ready to apply the short ones, rotation will, in all probability, have taken place so that the short forceps (or the long ones either for that matter) can be applied to the parietal bones. He, however, says nothing of rotation within the blades.

I have consulted the works of Dewees, Doane, Cazeaux, Chailly, Churchill, Bedford, in fact, all the works in my limited bounds and find nothing except in Velpeau and Leishman's on this subject. Velpeau speaks of it incidentally as a *possibility*, thus: "If the head having been seized by the occipito-frontal diameter has not, while descending *rotated within the clamps of the instrument* it must be abondoned at the inferior strait and be taken hold of more advantageously should the forceps still be needed;" very much the same idea as that quoted from Ramsbotham, though Ramsbotham does not speak of the rotation as possible.

Dr. J. L. Pary in a bracket note in Leishman quotes Dr. W. F. Jenks: "The great advantage which results from an instrument intended only to supplement a deficient vis a tergo is that the mechanism of labor, *can* and *does* in most cases, when the contraction is not too great, proceed undisturbed, the head rotating anteriorly inside the blades." He then proceeds to show from Brown, Hope, Scanzoni and Schneider, that there can be no disputing the fact, that rotation does occur within the blades.

It is rather singular that so few of our writers have noticed this change within the blades, and then have made no practical deduc-

tion from it. The general idea is that it is accidental, and outside and beyond the control of the operator, and therefore to be observed —not to be used. But why should not this rotation occur in every instance where the obstacle at the superior strait has been overcome and where the uterus has been incited to action by the stimulus of relief? Certainly if it can be accomplished then, one of the chief objections to the application of the forceps at the superior strait will have been overcome.

I have mentioned in the first part of this paper that my first case calling for the use of the forceps at the superior strait resulted in rotation within the blades, to my utter astonishment, the head could not pass down because of diminished antero-posterior capacity, and the woman had been in labor 48 hours when I saw her. It was her first child. Both mother and child did well.

The second case which came under my care was that of a woman who, in three successive labors, had been delivered by craniotomy after the uterine contractions had ceased entirely in each case.

This then was her fourth labor. I applied the forceps to the occipito-frontal diameter of the head and determined to test my preconceived idea that rotation would always occur in these cases when the obstacle to the progress of the head had been overcome, provided the forceps were used only as a traction, and no compression used. My success was complete, the head rotated and the woman was delivered of a living child, and both did well. The third case occurred in the same woman with precisely the same results, at the expiration of two years, second child delivered alive, and mother and children are well at this day.

The discussion of this subject opens up a wide field, especially in the direction of the general use and mode of application of the forceps. Discussion always brings to light facts, and facts are worth all the theories in the world. It has been objected by some with whom I have conversed on this rotation within the blades, that if the uterus had sufficient power to complete rotation, then there was no further need for the forceps. While this may possibly be so, he would be a very unwise accoucheur who would relinquish the advantage of complete control, for an uncertainty, where there was no advantage to be gained by so doing, and this, especially in a case already exhausted by long continued exertion.

My idea then is, that the forceps in these cases should not be allowed to *hinder rotation* by compression, and further, that nothing but *passive* traction should be used while rotation is taking place, and then we can complete delivery as speedily as circumstances may demand. If the general theories of the causes of rotation are correct, the forceps are from this very conformation, of the greatest assistance in facilitating it. It has occurred, I suppose, to every one to have met with instances when the forceps seemed to be a necessity, to find the rotation suddenly completed upon the application of one blade alone, it having presented a better surface for the change than the natural curve of the pelvis. And, also, every one accustomed to instruments has observed how partial rotation nearly always takes place where the instruments are applied when rotation is nearly complete—the blades advancing up towards the pubic arch and slipping to the parietal surfaces as the change is completed. The more *useful* we make the forceps the *less* will be the *public prejudice* against them. Their judicious use is already overcoming this prejudice and saving many lives.

EXCISION OF THE EYE.

Read before the Medical Society of North Carolina, at Greensborough, N. C., May 21, 1879.

By Thomas J. Moore, M. D., Charlotte, N. C.

In the following case, to which I desire to call the attention of the members of this Society, I do not propose to offer anything novel in the manner of operating, but, by showing the condition of the eye which rendered an operation necessary, I present yet another instance of the correctness of the views expressed by Professor Chisolm, of Baltimore.

J. J. P., aged 15, came under my care on the 2d of February, 1879, suffering with acute inflammation of the eye, owing to a gunshot injury sustained on the 28th of December, 1878. Upon that day he went out hunting with some young companions, and while

hidden from view, he suddenly flushed a covey of birds; one of the party discovering them in flight, fired, and J. J. P., was struck by two large sized bird shot. One struck him upon the side of the face near the temple, but did not penetrate the flesh; the other entered the right eye, penetrating the eye upon the left side at the sclero corneal junction, in transverse mesian line, thence penetrating the iris on the same side.

From the most careful inquiries, I believe the following to be an accurate history of the case, previous to the time it came under my care:

Four days after the injury, inflammation set in, which produced pain, photophobia, lachrymation, with great redness of the orbital and palpebral conjunctiva. After poulticing for ten days with flax seed, the inflammation subsided (during this time the other eye appeared irritated, but there was no decided inflammation). After the subsidence of the inflammation the patient was attacked with parotiditis (mumps), from which he recovered in a few days. Upon the 18th of January, 1879, inflammation again set in and continued until the 2d of February, when the patient was brought to me for treatment.

At the time I examined him I found the shot had penetrated as above described, though it was impossible to discover how much further it had gone, as neither the lens nor any of the posterior portion of the eye appeared to be in any way disturbed. The rent in the iris which extended through the entire left half of same, was very apparent; the scar at the sclero corneal junction could be observed, the aqueous humor was slightly clouded, the conjunctiva reddened, though I did not consider the inflammation intense. The eye was totally deprived of sight; the left eye was neither inflamed nor apparently affected.

The advice given by Dr. Chisolm in his article "Upon the course that should be pursued with an eye lost through accident." p. 5, is as follows:

"Should a foreign body inflict the injury, and remain embedded in the eye ball, the necessity for immediate removal of the eye, becomes even more imperative, as the presence of the foreign body (usually a piece of metal) makes the future suffering more certain." Again, upon the same page "When an injured and lost eye has been

removed, the operation gives perfect protection to the good eye, which has not yet experienced any serious inflammatory attacks." "Until the injured and lost eye has been enucleated, there is no positive safety for the remaining one.

Recognizing the soundness of the views of the distinguished gentleman above referred to, I determined to operate at once. The patient was placed under the influence of chloroform and the operation first devised by Bonnet and O'Ferral in 1841, and introduced in London by Crichett in 1851 was determined upon. Fixing the lids with the stop speculum, and seizing the eye with a pair of forceps, I divided, with a pair of curved scissors, the conjunctiva around the cornea near the margin of same. Separating the conjunctiva by dissection from the sclerotic sufficiently to enable me to get in a strabismus hook, I divided in succession the four recti muscles, as near as possible to their insertion into the sclerotic. Commencing with the internal rectus, pressing upon the ball and forcing it partially through the opening in the conjunctiva. I divided the two oblique muscles, and, then seizing the eye upon the outside with the fingers, I drew it forward and inward, passed the curved scissors in behind, and cut the artery and nerve as close to the ball as possible. There was no hemorrhage and none of the precautions which have usually to be resorted to were required. Owing to the inflammation, I determined not to bring the edges of the conjunctiva together with sutures; but to allow natural contraction and adaptation to supply their want. Upon examining the eye, the shot was found embedded in the centre of the optic nerve just as it penetrates the sclerotic coat, and the shot was partially clipped by the scissors in cutting through the nerve. I have a part of the sclerotic coat and the section of the nerve with the flattened shot embedded in same, preserved in alcohol, which I present for inspection. In two weeks the conjunctiva was entirely healed, and nine weeks afterwards—an artificial eye was inserted which rests upon the cushion formed by the conjunctiva, and, as the muscles of the eye were all preserved, the motion of the artificial eye is perfect. As I have previously stated this case corroborates the views of Dr. Chisolm, and shows the importance of excision when a foreign body has penetrated the eye and remains therein embedded, whether the eye

appears to be markedly inflamed or not, for, in time, it will become so, causing loss of sight, and the site of the other eye will almost invariably follow in its wake. If this eye had been permitted to remain, I cannot see how the patient could have avoided painful and persistent neuralgia, which in the end would have produced destructive sympathetic inflammation in the other eye, as well as rendered the life of the patient intolerable.

ECLAMPSIA GRAVIDARUM.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 21st, 1879.

Reported by W. C. McDuffie, M. D., Fayetteville, N. C.

On the 10th of April, 1879, I was called about 5 o'clock P. M., to see Miss A. L. R., an unmarried girl, aged 17, 7 months advanced in pregnancy. She was very short and compact in build, and of former robust health, except for the last few months she had been greatly depressed; however, there appeared to be no warning of the approaching storm. I was informed that she had suffered all that day with excruciating pain in the head and in the region of the liver, the skin was hot and dry, pulse over one hundred, the tissues were puffy and the limbs much swollen; I wrote a prescription for her, and left directions; but before the medicine was administered, I was resummoned with the message that she was dying; immediately upon reaching the bed-side, I saw the last symptoms of a convulsion passing off. I was informed by the nurse that she was sitting up in bed but a few minutes before in the act of taking a cup of tea, when she was seized with a convulsion, which lasted several minutes, and another more violent than the first had just passed off. My first impulse was to bleed her, but the circumstances surrounding were anything but favorable for reaching a vein: scarcely any light: at least, but a small piece of tallow candle. The arms not only rigid from the spasm, but greatly swollen. I therefore determined to depend upon the chloral hydrate for the present, at

least, I hastily prepared an injection containing 48 grains, but even before this could be administered, another most terrific convulsion came on, which was the third. I succeeded, without assistance, (for the nurse had fled in dismay) to give the enema containing the above quantity, and it was well retained. I turned her on the left side and for some ten or fifteen minutes kept her in that position, when another slight spasm came, but passed off sooner than the others. I still kept her in the same position ; she remained quiet one hour, when she became partially conscious ; could understand what was said to her. I gave her, by the mouth, thirty grains of chloral; there was much difficulty in swallowing, as the tongue was severely lacerated. From this time she slept six hours, I remained by her, and when she awoke, in only a partial state of consciousness, I gave her another dose like the last. Again she was quiet and when I left I gave directions to repeat the dose at the next awaking, but I returned in six hours and did not then repeat it, gave her a little milk gruel and as she was disposed to rest, I waited until a later period to give the chloral. At this time the swollen tongue prevented distinct articulation, but the intellect was clear enough to comprehend what was said directly to her. The color of the skin was better, the pulse regular; and free and unobstructed action of the heart—no pain other than a great heaviness in the head and blindness upon attempting to raise up in bed.

Before stating the subsequent treatment, I will state that as soon as I could do so, upon my visit the night before, I examined the os uteri, there was no disturbance there, none in the least, and from long and close personal observation, I was satisfied that she was not for one moment experiencing uterine contraction, and had not at any time before the attack.

I now gave her a full dose of compound powder of jalap, which acted freely in three hours. While I would have hailed a rapid delivery at the first, with joy, yet I did not feel justified in proceeding to measures to bring it about, for really at the outset I had all I could do; so I decided that it was safer to battle with the ills I had, than to encounter, perhaps, another series of fits which I thought likely to follow the parturient effort. With this resolution I determined to keep up the use of the chloral hydrate at longer intervals and begin at the same time the use of diuretics.

After the action of the hydragogue cathartic before named I gave full doses of acetate potash and digitalis ; and that the nervous and vital energies might not only be supported but promoted, and the tonicity of the capillaries and the tissues generally increased, I gave tincture of iron.

The urine passed twelve hours after the last convulsion was the first examined. It was dark, thick and very scant, by the usual tests for albumen it showed a very large amount present, indeed, it was almost *solid albumen* upon the application of heat or nitric acid. Not increasing sufficiently in quantity, and fearing the worst eventually, I determined to give Frerichs' suggestion a fair trial in this case, I allude to benzoic acid. I gave 20 grains (made soluble by an equal quantity of biborate of soda), every six hours until six or eight doses were given. Frerichs says:

"This acts by arresting the poisonous effects of the ammonia, which results from decomposition of urea in the system."

" That it is this subsequent decomposition that produces the bad effects upon the brain through the blood," and that it is not the mere fact of urea being in the blood ; that is, if the neutralization of the ammonia can be effected, we need not dread the consequences of urea in excess in the system. Therefore, it is recommended as a chemical reägent and is only serviceable while we are giving it, and until diuretics can be made available. Upon this theory I gave it, and it may have done good. I pushed the diuretics, acetate potash and digitalis to the fullest extent. The acetate acting too freely on the bowels (as it will do in such large doses) I withheld it, but continued the digitalis, at the same time giving iron. By the fourth day the increase in the flow of urine was pretty well established, still the analysis made every day, showed but little improvement in its character.

With the assistance of the microscope, I could detect no blood corpuscles, but did see some epithelial cells, resembling pus corpuscles, these I only found the first day. The anasarca gradually left the patient, the urine becoming more normal in quantity, but still containing albumen. There was no motion of the fœtus at any time *after* the convulsions, and just one month from the time of the first seizure, that is, May 15th, uterine contractions began spontaneously, and continued with gradually increasing force for ten

hours, when a dead, and partially decomposed child was expelled, having the appearance of a seven months growth arrested. The placenta was removed without trouble and the amount of hemorrhage insignificant. The lochia continued with gradual diminution, was quite offensive at first, but the daily use of Labarraque's solution prevented any great unpleasantness. She is now, I consider, well.

There was no symptom of spasms, no congestion about the head, nor pain, nor any manifestation of even nervous irritability during the ten hours of labor.

The above case illustrates *the power of chloral hydrate in puerperal eclampsia,* how far does the subsequent treatment illuminate the pathology of this disease? or, did the subsequent treatment have anything to do with the prevention of convulsions at the time of the labor? I have never been one to resort quickly to, or rely much upon, what is called experimental therapeutics, but this was a case that appeared to me justifying the risk, and if it be true, that the true pathology of puerperal eclampsia is decomposition of the constituent elements of the urine, and that this composition can and does take place in the system, why doubt the benefits that might be derived from the application of chemistry to practical medicine? This disease is one of such a fearful character; indeed, it has been well said, "that no other accident incident to the parturient woman (save, perhaps, rupture of the womb) is so much to be dreaded" that we may be excused, if in such an emergency, we resort to more than one mode of treatment, even at the same time. We are so accustomed to rely upon the kidneys to assist in the removal of poisonous matters from the system and we know that the kidneys can depurate the blood not only, of matters regarded as the constituents of the urine, but also, of compounds excreted by other glands; hence we so often resort to diuretics; but when we encounter an almost downright refusal of the kidneys to properly eliminate deleterious compounds from the system, and sometimes increase the flow of urine by the best diuretics, we may well, in such a dilemma, resort to some chemical agent, (for the time at least) that will neutralize the noxious element.

If this be the true pathology, the treatment is sound. Upon this, however, I have my misgivings. Since this case has been in

hand I have given the subject some thought and looked up some of the recent literature of the disease, and while I heretofore relied pretty much upon the theory that it resulted from mechanical pressure upon the renal vessels first, then congestion from obstruction, then alteration in the elimination, and, of course, toxemia, yet Barnes' theory is rather more to my liking, also, Atwater's "emotional causes." I am half inclined to the belief that the disease is of nervous origin. There is much diversity of opinion amongst recent writers upon this subject. Atwater, of Vermont, in the last number of the *American Journal of Obstetrics* says: "in 1000 cases of midwifery noted in private practice, there were 12 cases of eclampsia—4 before delivery, 3 during delivery, and 5 after delivery. Four of the 12, I believe, he says were *illegitimate* pregnancies." This would show one-third of the whole of the eclampsia cases to be illegitimate. He attributes this large proportion to emotional causes. Of this, I am unable to speak from personal experience, as I have kept no record of this variety of convulsions.

We must all make our estimates from the experience of others combined, for fortunately one practitioner sees comparatively few cases in his whole life time practice.

A recent author says: "that in European practice only one case of eclampsia occurs in 350 cases of obstetrics," this means, I suppose, at the time of delivery, and does not include the cases that occur before and after the parturient period, and if so, it accords very nearly with the experience of American practitioners, when notes are kept as in Professor Atwater's article. There he only had three during parturition which is one in 350, and the proportion before and after will, no doubt, hold good everywhere, or a little over one in one hundred. I am not prepared to go as far as this author in attributing eclampsia to emotional causes alone, or, at least, in believing that illegitimacy has so much to do in producing it, yet he argues well when he says: "That the nerve centres at this period are in a state of exalted irritability and sensibility, there is shame, fear of exposure, and solitary brooding, these strain, beyond control the nervous system which is already partly exhausted by the demands of pregnancy." "When wholesome control and balance are lost" he says, "convulsions ensue." He might have

added unremitting anxiety as another emotional strain and this applies as well to legitimate pregnancies as to illegitimate.

Leishman rather favors Dr. Barnes' views as to the origin of eclampsia. He gives strong reason for these views. I have not time in this short article to quote him at any length, but will adduce a few negative reasons as I think to explain away the old theory of albuminuria. 1st. We know how often we find albuminuria connected with such specific diseases as scarlatina, diphtheria, &c., without convulsing, and 2d. It has been shown that it exists in probably as high as 30 per cent. of pregnant women, without convulsions, and 3d. In "Bright's disease" proper, we do not necessarily have convulsions. Again there has been a large increase in the percentage of recoveries since the use of anæsthetics has been adopted so largely by the profession, I state this upon the authority of Leishman, and from the success I have had in every case—true not many—with chloral hydrate. Since its addition to the materia medica, it has fulfilled in my hands, my utmost expectations.

One word upon the supposition that uterine contraction has an important share in this fearful trouble. The argument in favor of this, is clearly of but little force, when we consider the number who have convulsions during pregnancy and after delivery, and as was shown in this recent case here reported where there was not the slightest disturbance in the uterine fibres, no appearance of reflex sensibility when the os was subjected to a digital examination.

Altogether, I see but little relation between uterine contraction and eclampsia; finally I am inclined to agree with those who believe that "the *nervous* system, and not the vascular, may, after all, be the starting point of puerperal eclampsia."

THREE CASES CONGENITAL PHIMOSIS AND ADHERED PREPUCE.

Reported by I. Wellington Faison, M. D., Fulton, N. C., to the Medical Society of North Carolina at Greensborough, N. C., May 22, 1879.

Case 1.—Felix H., aged 18 months, was brought to my office July 3d, 1878, by his mother. His general health seemed to be good. His mother stated that for two months she had not had a good night's rest for the screams and wild cries of her little boy at intervals during every night; but that in a few minutes on becoming calm he would readily return to his sleep.

A month before I saw the boy, she said she noticed that he had grown very clumsy and was troubled a great deal about passing his water. The weakness in the joints and relaxation of muscles continued slowly until he could scarcely go at all. Being earnestly taught and eagerly insisted upon by my celebrated and learned teacher, Professor Lewis A. Sayre, of New York, never to allow a case of this nature to pass without examining at once the penis, I proceeded to examine that organ, and on slightly touching the prepuce, instantaneously an orgasm of the whole system was produced. I advised circumcision as the surest and most speedy remedy.

July 4th. I called and performed circumcision after Prof. Sayre's method, as follows: I pulled the prepuce forward and clamped it with Atlee's cervical dilator, having nothing better to hand, then with one sweep with scalpel diagonally from above, downwards and forwards, I cut the prepuce off.

The cuticle readily retracted. With my thumb and index finger of each hand, I seized the mucous membrane and tore it from the glans penis; finding behind the corona glandis a hard ring of sebaceous matter which I removed. I then took a pair of blunt pointed scissors and slit the mucous membrane on the dorsum of penis. I used three sutures to stitch the mucous membrane and cuticle together—there was little or no hemorrhage. I dressed the penis with a thin cloth saturated with unguentum petrolii and ordered frequent applications of cold water.

July 5th. Little fellow cheerful; some little trouble on night of the 4th; ordered the dressings to be continued.

July 7th. Patient and mother both happy—no farther night trouble—had gained strength in lower extremities, removed sutures and continued the former dressings. Two weeks after, I saw my patient running around as if nothing had ever happened to him. Not one dose of medicine was given.

Case II.—John Wesly M., aged 11 months, was brought to my office October 8th, 1878, by his mother. She stated that two months ago, the child had aroused one night, hallooing and screaming as if something was trying to carry him off, and that by the time she got wide enough awake to turn to the child and find out what was the matter, he had quietly gone to sleep. This had continued ever since, being more aggravated. She then noticed him giving way in his knee joints, falling to the floor while standing up by a chair.

This gradually grew worse until he could not stand at all. For some time after this he could crawl about the room. After awhile he had to give up this pleasure and remain wherever he was put. It then followed that the muscles of the upper extremities ceased to obey the will, and finally the muscles of the neck became tired of work, and the head had support only by leaning upon the breast or shoulders. At this stage of the case I saw the child. He looked as if the last ray of hope was gone; extremely emaciated, his eyes were sunk deep into their sockets, and his tongue was heavily coated with brown material, his appetite utterly gone, his bowels very costive, his abdominal walls rested upon his vertebral column, and he could pass his urine only with extreme difficulty. I examined his penis, and found it very much elongated and contracted, the slightest touch producing a general orgasm. I advised circumcision, which required some explanation as the mother was illiterate.

She unhesitatingly declared that she would not submit to any such a thing, and exclaimed, that she would rather see her child die as a child, than to see him grow up and not be a man. I soon convinced her that I could cure the little fellow and would guarantee him to be a man.

She then gave her consent and I performed the operation as detailed above.

I found behind the corona gland a firm ring of sebaceous material encircling the entire penis. The meatus of urethra indurated and to

the extent of about one-sixteenth of an inch covered with a white deposit, which I thought to be phosphatic. The case being such an aggravated one, I visited it regularly using the same dressings as in the other case.

October 12th. I removed the sutures and found the child improving. I gave 5 gtt. fld. extract ergot three times a day and 10 gtt. syr. iod. ferri three times a day; ordered friction with cold water along the vertebral column, night and morning.

October 14th. Sleeping well; bowels acting a little; could pass his urine in a full gush, and his appetite was improving. Continued the above prescription.

October 20th. Still improving; could now sit up and begin to crawl. Continued the syr. iodid. ferri only.

Two weeks later I saw the child, he was much improved and continues getting better. Just six months after the operation I saw the little fellow again, and he looked red and healthy. He could get about very well and seemed to be completely cured.

Case III.—Henry E., aged 15 months. This is a milder case than either of the other two. I mention it to show how little irritation at the point may cause reflex action. The adhesion was unilateral and the only reflex symptom was the cries at night. I used a grooved director, passing it up under the prepuce and forcibly detached the adhered part, removing from behind the corona glandis a firm portion of sebaceous matter. I gave small doses of brom. potassi. and hydrate chloral at bed time—with no further trouble.

The main pathology in all of these cases seems to be, without doubt, in my mind the irritation produced on the peripheral nerves by the ring of sebaceous matter found just behind the corona glandis. With the same earnestness which my friend, Dr. Whitehead, urged every member of the medical profession to go at once and buy a copy of Dr. Sayre's work, for the purpose of treating spondylitis, I urge you to buy one for the purpose of treating congenital phimosis and adhered prepuce.

PUERPERAL ECLAMPSIA WITH PYOPHTHALMITIS.

Read before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879,

By R. F. Lewis, M. D., Lumberton, N. C.

Mrs. ——, twenty-two years of age, three years married, had a very severe convulsion at the seventh month of pregnancy, and miscarried on the second day after, the child living but a few minutes.

Some impairment of vision followed, which was relieved in a few weeks by the internal use of strychnia, with blisters to temples, nape of the neck, and behind the ears.

Three more miscarriages followed at an interval of some months, no ill effects to the eyes following the misfortunes, twice she had convulsions preceeding.

On the 8th day of April last, I was summoned to see this patient. She had a few days before returned from a visit to her mother, a distance of twenty-five miles—had gone and returned in a buggy. She informed me that she was again pregnant. She had fever; a dirty, dry tongue, with some gastric irritability, and occasional rigors. She complained of a very severe throbbing in the left eye. I quickly produced a blister in the temple, with aqua ammonia, wiped off the skin and to the denuded surface applied morphia made into a paste with water. This had the effect of speedily relieving the pain, and in a few minutes she slept. I left her a powder containing 15 grs. of calomel and 5 grs. Dover's powder to be given that night.

The next morning she was suffering from cramp in hands, feet, calves of the legs and tongue. Occasionally, she vomited, which seemed to aggravate this trouble, and for some moments after it she articulated with very great difficulty. She informed me that while absent on this visit above mentioned, she had been troubled with the cramp; but with nothing like the severity that she now suffered. Occasionally, her eye throbbed with pain this morning, and there was some tumefaction of the upper lid. Directed that cloths dipped in cold water be kept to the eye.

Knowing so well her former trouble, and fearing a recurrence of convulsions, I immediately prescribed the following mixture :

℞

Bromidi potassii.
Chloral hydrat. āā ʒ iij.
Syr. lemonis.
Aquæ, āā ʒ iij.

M.

Gave her of the mixture a tablespoonful, and ordered it to be repeated every hour until the cramps were relieved. I saw her again in a few hours ; she was entirely relieved after taking the third dose. The eye lid seemed more swollen and was discharging a watery fluid, tinged with blood. Continued the chloral mixture during the night, in smaller doses, when necessary to produce quiet.

Saw her early the next morning, the eye looked badly, an ugly clot had formed during the night, and was adhering closely to the lashes of both lids, completely shutting up the eye, and from each corner bloody matter was oozing. Promising to call again in a few hours, and having scarcely left the enclosure, when the nurse ran to the door and called me back. Upon entering the room I saw that she was frightfully convulsed. As soon as she could swallow, I gave her a double dose of the anodyne mixture—two spoonfuls, and in fifteen minutes gave her a smaller dose. About half an hour afterwards she had another slight convulsion. The medicine was then given in smaller doses, during the day and night. She had no more convulsions. The next morning the eye was discharging a little pus, and a bread and milk poultice was substituted for the cold water applications. The ugly clot was still there, and she resisted every effort, on my part, to remove it. I dropped into the eye, as well as I could, a solution of the nitrate of silver, (20 grs. to the oz. of water), and applied a blister of cantharides to the temple.

The nurse informed me the next day that there was some vaginal discharge. Upon making a digital examination, I found this to be the case ; but there was no dilatation of the os, or any uterine contraction. During the night I was sent for, and found her in labor, and in a short time she gave birth to a fœtus apparently of three months fecundition, the placenta coming away first, and in a partially decomposed condition. On the seventh or eight day after its ap-

pearance, the clot came away and the swollen lid rapidly subsided; then, for the first time since she became sick, I was able to make an examination of the eye ball. The cornea was in a complete state of opacity, and I feared that the organ itself, from its protruding appearance would soon break down and slough away. The lower conjunctiva now became involved and the whole lid was everted.

Directed the room to be kept dark; scarified the conjunctiva, and blistered the temple. Continued the nitrate of silver applications and the poultice. With the unaffected eye closed, she cannot distinguish night from day. Pus is being freely discharged.

The condition of the eye on the 25th day seems better, the inflammation is subsiding, and the ball appears to have assumed its natural size. I have, for some days, been dropping into the eye, a solution of atropine—2 grs. to oz. of water. The opacity continues. Sitting near a window, with the good eye closed, she can readily discern when the curtain is raised and lowered.

In the beginning I thought it neuralgia, and afterwards took it to be a case of purulent ophthalmia; and so continued to think, until I noticed the condition of the placenta, and the purulent discharge accompanying it; then I became convinced that it was a case of pyophthalmitis, resulting from the absorption into the circulation of the purulent matter in the uterus. The cramps she had on the above mentioned visit, were probably coincident with the death of the fœtus in utero.

It is possible, if abortion had taken place at that time, she might have escaped this terrible disease of the eye.

The trouble began with her eye. No vaginal discharge took place until many days after she was attacked. This, in connection with the subsequent debilitated and anemic condition of my patient, I think, bears me out in my latter diagnosis.

Under the administration of quinia, strychnia and iron, she is slowly gathering strength. There is yet some pain, occasionally, in the eye, and, I fear, that she may yet have to submit to its extirpation.

My object in presenting this case, is not to claim that I have thrown any light on the disease; but merely to call the attention of my brethren to its insidiousness. I have never met with a similar case, and I have not been able to find much literature on the subject.

Professor Gross in his work on surgery, remarks that it is of such a destructive character, that treatment, however vigorous, avails but little. The proper treatment then is to prevent, if possible, the disease. When this is to begin, and what it should be, I shall leave to abler minds to explain.

MODERN THERAPEUTICS IN ITS RELATION TO EXISTING PHYSIOLOGY.

Annual Address delivered before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879.

By William W. Lane, M. D., Wilmington, N. C.

Mr. President and Gentlemen of the Society, Ladies and Gentlemen:

Before entering upon the subject matter of my remarks, Mr. President, I feel that I should be recreant to my obligations to my fellow members of the State Medical Society if I did not first thank them for this manifestation of their esteem, to an humble member of their body.

When, Sir, I look around me and see so many prominent gentlemen of the profession, men qualified to dignify any position to which they might be called, not only in our State organization, but who might fill with honor and credit the Professor's chair. I feel, indeed, how unwise the choice has been in selecting me as your speaker on this occasion.

Mr. President, I utter no fulsome flattery when I say the Medical Society of North Carolina is composed of no ordinary men. They are men whose lives are devoted to study and the investigation of scientific truths. Their labor is one of humanity! I feel proud of my association with such men, and my membership with this time-honored Society, and can remember no time in my life, when my breast was more full of honorable pride than it is to-night, in occupying my present position.

I regard it as no mean honor to be privileged to address so distinguished a body, coming as they do, as representatives of sections of our good old State. I say time-honored, for there are few of those who met in its organization twenty-six years ago, now with us in our yearly meetings; but the Society has grown in strength and usefulness. It not only brings us together each year in social re-union, where we can have that interchange of views so necessary in keeping bright our medical knowledge, but it has elevated the standard of professional men not only among themselves, but in the estimation of the laity. The Medical Board of Examiners have accomplished much in this direction, and it is to be hoped no young man who proposes to practice medicine in North Carolina will neglect presenting himself before this Board, and obtaining their certificate of his worthiness and proficiency.

It would probably be interesting to state here, a fact connected with the early history of medicine in our State, and one, perhaps, few or none of the present members of our Society, have any knowledge of. It seems that as far back as 1799 or 1800, the Medical Society of North Carolina was chartered by the Legislature. So far were they advanced in 1801 that prizes were offered for the cultivation of certain drugs formerly imported, such as rhubarb, in quantity not less than five pounds, opium not less than five pounds, castor oil, &c. At the same time also, a candidate for membership, after being examined in open meeting by the Board of Censors, was admitted.* The Society was again revived in 1849. In 1859, ten years after the reörganization, the present Board of Medical Examiners was created by the Legislature, which has been in operation ever since with the exception of four years of war.

The provision of this law is well known. During the dark period

*North Carolina Medical Journal, May, 1879.

of our existence in 1868, a strong effort was made by one Rev. Welker, a member of the Legislature to repeal the law; but through the able exertions of Dr. C. Tate Murphy, a fellow of our Society, and then in the Senate, this attempt was frustrated.

It is worth while to state, that it so happened that the estate of Senator Welker was saved from the clutches of a quack, through the instrumentality of the very law he attempted to defeat, the claim of the man who had attended him in his last illness, was denied on the plea of his having no license to practice under the statute of 1859. On the refusal of his bill he made application to the Board of Examiners for license; but was refused on grounds sufficient to the Board.*

The public and private good derived from such an organization and its influence upon society at large is incalculable. Let us see then that we do our full duty to ourselves and to our people, not lagging in professional zeal, but showing our work lies upon an elevated plane above the ordinary avocation of life, and that money paid for services rendered, however necessary to our maintenance, is not the sole object of our lives.

Society looks up to us for aid and advice, not only in all the afflictions of domestic life; but also in all matters of general hygiene, pertaining to the public interest.

We cannot expect the public to estimate us by any other than that of our usefulness: a practitioner may be a gentleman of high education, accomplished in all the requirements of his art, a diagnostician of acknowledged ability; yet, he must possess that tact which renders him an agreeable companion, and the affability that makes him accessible to all the classes; and above all, he must inspire the confidence and ability to relieve his patient of the various diseases and injuries we are subjected to.

The important bearing, Gentlemen, that modern physiological enquiry is now having upon practical medicine, and the increased importance given to the subject by the great medical thinkers and workers of the present epoch, has induced me to select "Modern Therapeutics in its Relation to Existing Physiology," as the subject of my remarks on this occasion. In the earlier days of our art, and in many instances even now, our practice was little more than a

*North Carolina Medical Journal, May, 1879.

rational empiricism, based frequently on the experiences of our predecessors, and the necessity and urgency of the case.

The anatomy of the human body was little known, and that was comparative, drawn from the examinations and dissections of the lower animals: physiology as we now understand it was unwritten.

We can only appreciate our present knowledge of therapeutics, by noting the progressive stages of the art, as handed down to us from the earlest times.

Particularly are we indebted to physiological chemistry for the explanation of many of the phenomena of life, and we may confidently expect still further light to be thrown upon the laws of nature, which are now hidden mysteries. By its aid are we enabled to study the functions of the parts in their relation to disease, and thereby enabled to apply our therapeutic knowledge intelligently.

The tendency of modern medicine is to positiveness; the endeavor must be to give a physiological reason for the exhibition of remedial agents. An accurate knowledge of the science of medicine, must be based upon our acquaintance with physiology, or, as it is termed, the science of life.

Our practice cannot be otherwise than empirical unless guided by an enlightened physiology. All the phenomena of life are ordered and governed by physical laws, which, though in many instances, are to us obscure and mysterious, still, must we be directed by the present lights that are before us. Fothergill in his excellent treatise says all therapeutics, whether curative or palliative, must rest, if they aspire to be rational and successful upon a sound comprehension of the nature and exact position of the malady. Much remains to be investigated; much to be learned, before the science reaches its highest influences. But if such is the case, we should not be discouraged, for many are the able and enthusiastic workers who are arduously laboring in laying deeply and firmly the foundation of a rational therapeusis.

We cannot fully appreciate the present condition of our science, without taking a retrospective glance of the knowledge existing among the ancients in the earliest periods of society. It is a natural enquiry, in reflecting on the present status of medicine, to ask ourselves, what was the origin of our art, and where it began? It

is interesting and instructive to trace its history from the most remote period of antiquity to the present. Surely those who deny that in the midst of universal progress, medicine has not advanced in proportion with other sciences, have studied its history to very little purpose.

Though there is very little doubt that the origin of medicine sprung from the natural wants and necessities of man, still the most ancient account of authenticity, is from the writings of Moses, who tells us that Joseph commanded the physicians to embalm Jacob, 1700 years before the birth of Christ.

But even before this time, the arts and sciences had attained great perfection in Egypt, and which only could have been acquired by centuries of the accumulated wisdom and experiences of her wise observers.

The laws of Moses regulating the public and private hygiene of his people, are well worth imitating even at the present day, and though apparently drawn from the customs of the Egyptians, were really the commands of God himself.

The salutary rules and regulations there promulgated, in their sanitary relations with each other, in the minutest detail, the separation of those who were diseased were made matters of religious duty, and could scarcely be improved upon by any writer of the present day on sanitary science, and shows that hygienic laws governing the health of individuals and communities, were of divine origin.

Later on in the history of the world, we have King Solomon, who, we are told, surpassed all men in his time, and before it, in wisdom and knowledge. Josephus, as well as biblical history, tells us of his wondrous knowledge of all things in nature. He not only knew the name of all plants in the vegetable kingdom, from the cedar of Lebanon to the hyssop that springeth from the wall, but he was familiar with their medicinal virtues, and the compounding of remedies in disease.

It is not likely he drew his learning from books or scientific treatises on these subjects, or that he acquired his information from experience, it was a divine gift, from God to man. In other words, it is probable, yes, almost certain, that many articles of our present Materia Medica, daily prescribed by physicians, were made known to man by the great Giver of all good things.

"The Most High has created medicine out of the earth, and he that is wise will not abhor them."

It was not, however, until the philosophic period in the history of medicine, when the great and original Hippocrates came upon the stage, that therapeutics began to assume that important position in the healing art, that it was destined to take in the future history of the science.

No writer before him has given such a systematic treatise on the subject connected with medicine in that day. Many of his views are even accepted and quoted at the present time. He had, though, no special knowledge of anatomy, and had, probably, never dissected the human body: the prejudice existing in his day which made it unlawful to touch a dead body, was not obliterated until long after his time, consequently he knew little or nothing of physiology. Nevertheless, he had a fair idea of the osseous system, but the muscles which were termed flesh and the tendons, ligaments, &c., were only thought to serve the purpose of covering and giving motion to the body. It was believed that the arteries contained air and the veins blood.

He wrote treatises on air, water, locations and knew much about climatic and topographical influences on the human constitution.

His knowledge of hygiene and therapeutics were the results of experience and observation, and though he left works on fractures and luxations, and their method of reduction, and on wounds of the head and other parts of the body, and the manner of treating them, he threw very little light on the advancement of surgery in that epoch. The great and universal esteem in which the father of medicine was held by his contemporaries, was due as well to his virtues as his genius: he seemed to be actuated not by a desire for reputation, and the powers of society; but by the exalted idea of doing good to his fellow-man, by teaching them the laws of health, and curing their diseases. It was not, however, until the beginning of the fourteenth century, that a ray of light began to pierce the darkness of anatomical research, through the boldness of a Bologna professor in dissecting the bodies of two persons, from which he made illustrated drawings that served for two hundred years the purpose of demonstration. Though it was a century later before any one dared to imitate the bold professor in consequence of the still existing prejudice against human dissection.

But towards the close of the fifteenth century, these prejudices began to subside, and as the Popes who were the patrons and promoters of scientific progress in the arts and sciences, withdrew their objections, public dissections began to be common in Italy and many other places. Among the enthusiastic students of this branch that the withdrawal of these restrictions produced, stands forward preëminently the great Vesalius, whom we all delight in honoring, as the founder of modern human anatomy.

About this time physicians began to observe the effects of organic disease, as shown after death, which rendered them valuable aid in their diagnosis, and was, we may say, the foundation of pathological anatomy, and established the boundary line between ancient and modern medicine.

It appears somewhat remarkable though, that surgical therapeutics should have remained in so feeble a state of advancement for fifteen hundred years after the Christian era, and that only a little over three hundred years ago, Paré substituted the ligature for boiling oil in amputation. But if medicinal and surgical therapeutics have toiled thus slowly along to reach this point on the highway of human knowledge, it has more than made amends in the rapid strides since that time, and particularly in the past century, and culminating in that enlightened physiological therapeusis, it is our good fortune to enjoy at the present day.

We have now arrived at a time of precision in medicine, it might be termed the learned period, though, doubtless, as Flint says, we are yet merely on the threshold of our physiological investigations in many of the hidden laws of life. There has been no period in the history of medicine, when so much has been done. So much aid rendered by existing physiology, to modern medical therapeutics. Modern physiological chemistry has, perhaps, contributed more largely than any other department of human science in advancing our knowledge of the more important phenomena of life. To it are we indebted for what we know of the air we breathe, the water we drink, the methods of digestion and absorption and nutrition of the body; and with the help of the microscope, practical medicine took a long step in a medico-legal direction.

For by its assistance the human blood may be distinguished from that of the lower animals, and even the blood stains upon clothing

or a floor of years duration may be determined with a perfect certainty.

It is in sanitary medicine, however, that has for its object the prevention of disease, and the stamping out of devastating epidemics, that the minds of medical men are now to a great extent occupied. State Boards of Health are being formed in many of the States to carry out by scientific methods, these objects, and even the general government has become interested in the matter, and has passed a national health law by the advice of medical men in the interest of the people. The study of public and private hygiene is zealously occupying the minds of many of the best men in Europe and America, and if the laborious efforts of our professional workers, receive that encouragement from those in power in the government, that the magnitude of the subject demands, it will mark this era as the time when the most important movement for the good of mankind was ever made in the history of medicine.

From the terrible epidemic of yellow fever that visited the South western portion of our country last season, extending from the Gulf to the latitude of Memphis and beyond, many valuable lessons may be drawn. The previous known habits and movements of the disease seemed to have been utterly ignored in this last visitation.

Little is known of its etiology, unfortunately medical men differ in regard to its origin, the weight, however, of authority is with the importation theory.

I have no doubt the disease is of exotic growth, though receiving in each place of visitation its peculiar characteristics from local causes.

Thus, in New Orleans the disease seemed to be genuine yellow fever, whereas in Grenada and Memphis the impression made upon it by local influences, gave it more the form of a plague.

Dr. Belot, of Havana,* perhaps, as good authority as we have, thinks the disease is totius substantiæ, produced by miasmatic poison, sui generis, the antidote of which is unknown, the only medical treatment being that of the symptoms ; and the febrile orgasm nothing more than the energetic reäction to eliminate the poison.

*North Carolina Medical Journal, January, February, March, April, 1879.

The appointment of a medical commission to visit Havana and study the disease where it is endemic, is a step in the right direction, and much valuable information is looked for from this source.

It is in State preventive medicine that we may look forward to a mitigation of the evils of those merciless and depopulating epidemics, that visit us from time to time, and overwhelm us with their awful mortality.

The question of the management of sewage in our large cities is one of prime importance to our people. From the sewage contamination of drinking water arises many if not most of the causes of endemic diseases. Life is poisoned at its fountains. Though the minds of our public councils have not yet learned to heed the warnings of sanitary and medico-legal science, it is speedily being discovered that the harbors and rivers are not the proper receptacle of city sewers.

Here modern chemistry comes to our aid, and shows not only how the contents of sewers may be rendered inodorous, but innocuous, and converted into saleable compounds of the highest utility to the agriculturist.

Though we may consider ourselves merely in our infancy yet, in regard to State Medicine, still the impetus already given the subject, will, undoubtedly, lead in the near future to great developments of practical utility to the public and private health of our people.

In our recent advances in medical and surgical therapeutics, no time in the history of medicine has such progress been made ; the means of diagnosis and prognosis have wonderfully improved in the invention of such instruments of precision as the thermometer, ophthalmoscope, laryingoscope, sphygmograph, and others.

In the sphygmograph we have an instrument destined to render valuable aid in the study of diseases now involved in much obscurity, it serves as a test of the progress of acute disease, and shows changes that take place in the human system in health or otherwise of the circulatory, nervous or muscular. In acute disease the vibrations and irregularities of the pulse as shown in the tracings by this valuable instrument, informs the physician of what he may expect, long before it can be ascertained by any other means.

Also by its aid the action of stimulants and the physiological effect of different medicines upon the circulation may be studied

clinically, in the quickest manner without annoying the patient. The possibilities for this instrument for good is great, and will, no doubt, aid materially in illuminating some of the obscure questions in medical science.

We have, also, in the telephone, "though in no respect a medical instrument," a serviceable method of communicating with our patients. Only a short time since a professional friend informed me in Wilmington, that it was of very great convenience to him in conversing with the attendant of a patient he had visited the previous day on one of the lines of railway some miles from the city.

Perhaps modern medicine is entitled in its rapid advance to no greater éclat, than for the progress made in the skillful reduction of deformities.

In orthopœdic surgery a long felt want has been supplied, and though the method of procedure is simple in principle, the improvement is more the less useful, and has given imperishable fame to the author.

The name of Sayre will be for all future time connected with the greatest advance made in the history of orthopœdic surgical therapeutics, in our day and generation.

Sir James Paget remarked that through the zeal of Professor Sayre to advance a noble profession, he had accomplished that, by which the suffering of the hunchback of to-day were ended, and had blotted out the deformity for future generations.

Next in importance to the advances just mentioned as having been made in modern medicine, is what is termed the antiseptic method of treating wounds.

In regard to this system reference is had particularly to Mr. Lister's antiseptic treatment with carbolic acid, which I must believe is the most valuable contribution to surgical therapeutics surgery has ever known. It is true, this treatment is not altogether endorsed by some surgeons, either in this country or in Europe. Both Mr. Ashhurst here, and Mr. Bryant in London, appear both skeptical in their recent works on surgery, of the alleged superiority of the antiseptic method.

They grant the practice should have a fair trial and be honestly tested, but the latter regrets that the distinguished Professor of King's College Hospital has not published the results of his practice as a whole.

Professor Ashhurst regards the antiseptic catgut ligature as quite safe for ligature of arteries in their continuity, but not so good for wounded arteries, or those divided in amputation, as the ordinary silk ligature, as it disappears without dividing the external coat of the artery, and thus does not securely occlude the vessel.

Mr. Bryant, however, prefers it as safer than silk, as it does not require an ulcerative process for its discharge.

These authors, it would seem, have no faith in the germ theory of the production of pyæmiæ and kindred diseases.

Notwithstanding the views of the eminent surgeons just named, I must say that my experience does not fully accord with theirs.

I have used the antiseptic method both in my private and hospital practice with the greatest success, and regard it as only second to chloroform in its value to the surgeon.

Without it, I should feel that I had been deprived of the most valuable adjunct to my success as a surgeon. For the last four years I have used it in our U. S. Marine and City Hospital in every case of injury I have had to treat, and many of my amputations have healed under its use by the first intention, or with a minimum of pus formation.

As sustaining my view of this invaluable agent, I have noticed in a late number of the *American Journal of Medical Sciences*, a number of cases treated by Lister's method in St. Mary's Hospital, Philadelphia, by Dr. Ewing, and the results were, that the absence of fever, erysipelas and pyæmia were marked, the effect too being to produce by means of the spray a healthy and cleanly condition of the wards generally.

In gynæcology also, has this method, perhaps, yielded better results than in any other department of practical medicine. Professor Emmett in remarking upon it says, the surgeon is relieved of most of his anxiety in gynæcological surgery by means of the antiseptic dressing.

Our medicinal therapeusis too, guided by an advancing physiology, is constantly adding to our list, remedies of value in the treatment of disease. Acute articular rheumatism is almost deprived of its terrors by the specific action, we might say, of the salicylate of soda.

Opium poisoning quickly relieved by the energetic action of apomorphia and atropine, hypodermically administered. The

waning powers of nature in post partum hemorrhage taking on a renewed vitality by the transfusion of blood, as well also as the increased curative effect given to old ulcerations by the same process.

In hydrophobia, that terrible and incurable malady, the inhalation of oxygen has been found greatly to relieve the cyanosis and spasm, and in connection with the subcutaneous injection of woorara and the free incision of the parts, much more success has been attained in the treatment of this frightful disease than formerly.

In Jaborandi, the physician as an almost certain diaphoretic and in pilocarpin its active principle probably a valuable adjunct to our therapeutic armentarium is acquired.

The gelsemium too, with its beautiful flowers and delightful perfume, making redolent the forest air of the Southeastern portion of our State with its fragrance, is a most useful addition to the Materia Medica.

Besides its qualities as an arterial sedative, it is a certain antiperiodic in our malarial fevers. Thereby seeming to carry out the idea entertained by many, that where certain diseases prevail, nature has given us in the vegetable kingdom near at hand, a corresponding antidote.

The application of electricity, though still sub judice, both as a medical and surgical therapeutic agent, is probably destined in the not far distant future to render invaluable aid to the surgeon and physician.

Many are the other remedies and means which the modern advances in medicine have placed at the disposal of the medical men to subdue disease, and ameliorate the condition of mankind.

The practice of medicine of to-day is no longer subservient to ancient authority, however respectable and eminent, but based upon the sound therapeutics of an enlightened and advancing physiology.

Inflammation is no longer regarded as a disease, a materies morbi entrenched in the human system and requiring the aid of the old antiphlogistic batteries to dislodge, but rather a process of repair, a physiological action so to speak. By its influence a fractured bone is repaired, in pneumonia some obscure injury is received, and this process is brought into action to repair the lesion. In its efforts to bring about reparation, inflammation frequently becomes too energetic, and needs the interference of the physician, and right here,

all the good sense and judgment of the attendant is brought into requisition, to aid the efforts of nature in conducting the case to a successful issue.

The indications are to use such remedies as will lower the temperature and reduce vascular excitement. To accomplish the former, purgatives and saline preparations having a diaphoretic and cooling effect would be indicated; in the latter, those agents which have a tendency to produce dilatation of the blood vessels, thereby relieving the blood tension on the inflamed parts. Such we have in venesection, antimony, chloral, aconite, veratrum, &c., and the external application of poultices, and cold and warm water. Various antipyretic agents for reducing body heat have been in vogue from time to time, according to the advances in physiology, and as fashion would dictate—for we have fashion in medicine as well as in other things. Among the most effective means of lowering the heart's action, and reducing the temperature, none is more cogent than venesection, a practice now almost obsolete, mainly on account of its abuse.

The mistake our predecessors committed in blood-letting, and which brought the practice into disrepute, was too large bleedings at the beginning, and the repetition of the act to meet subsequent risings of the temperature, instead of following up the initial act by heart depressants and antipyretic remedies.

Professor Flint has been making some very interesting investigations recently, concerning the sources of animal heat, and he thinks there is little doubt but that water is formed in the body by the oxidation of hydrogen, and heat thereby evolved, and regards alcohol as a powerful therapeutic agent in preventing tissue waste in fevers, by supplying materials for formation of heat, and, perhaps, in animal heat the oxidation of carbon and hydrogen is a more important factor in colorification, than the oxidation of nitrogen. And if excessive heat is thus produced why may not the exhaustion and emaciation consequent upon the progress of fever be more or less modified by supplying the system with the hydrocarbons, in the form of fatty and starchy matter, sugar and alcohol, until the fever is subdued, than in the exhibition of highly nitrogenized food in form of beef essence and similar articles.

This view of the subject would seem somewhat to militate against

those advocates of the butcher shop and chicken coop, who consider the latter treatment as a *sine qua non* in all acute internal inflammation.

I will not, my friends, trespass further upon your time and patience, I am sure none of you can feel as I do, how feebly and inadequately I have performed the duty assigned me by your partiality.

I could go on and extend my remarks upon the connection and value of advancing philosophic enquiry with practical medicine, but time forbids.

I will say, however, that experience and observation have taught me not be excessive in my therapeusis; in other words, not to kill my patients with drugs; but trust more to the vis medicatrix naturæ, and not to be in too great haste to interfere with every abnormal departure from health, for there is always a corresponding effort on the part of nature to right itself.

The powers of systemic resistance to ill-timed medication is wonderful, if it were not so, many would be the victims of the charlatan and quack, and even of the misapplied efforts of the intelligent physician himself.

In conclusion, I would say a few words to the younger members of our profession.

Young men upon the threshold of professional life are frequently deterred from making proper and determined efforts to obtain reputation in their calling, from an innate consciousness that they do not have that genius or talent that gives their possessor notoriety.

They should reflect that what men most need, is not so much these qualities, as they do a resolute purpose. Industry, after all, is the lever of success. Untiring labor will frequently accomplish more than misapplied genius or talent, not that running here and there after many objects; but that industrious pursuit of the object in view with steady purpose.

Economy, prudence and self-denial will bring its reward. A man with moderate ability and well applied industry, will frequently attain the success that is denied the shining genius.

It is not wise either, to put too low an estimate on one's work, every one has a mission to perform in this life, and none are without their influence. The better that mission is performed, and the

greater the influence for good, the more has he accomplished for the benefit of himself and others in the world's great drama of life.

The possession of self confidence is very necessary in carrying out zealously the various enterprizes of our career.

No man ever achieved anything, not in the arts and sciences or in any field of labor, unless he possessed that innate consciousness of his ability to succeed.

To cheerfulness and contentedness in that station of life in which an all wise providence has placed us, must we all look for that aid and comfort so requisite in sustaining us through all the pleasures and trials of life.

USE AND ABUSE OF ALCOHOL.

Abstract of an Address delivered before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879,

By J. F. Long, M. D., Newbern, N. C.

* * * * * It is not my purpose, Gentlemen, to make you a temperance speech on this occasion; nor would I worry your patience or insult your good taste by *attempting*, even an *elaborate* essay upon the physiological effects of alcohol on the system: but impressed with the startling fact that, despite the fierce battlings of tetotal societies, the persistent work of temperance crusades, the noble efforts of the church, the influence of gospel ministers and the gentle persuasions of relatives and friends: the vice of intemperance is rapidly on the increase, and a tidal wave of drunkenness many degrees higher than that of the preceding years is sweeping over the land, drenching the homes of high and low, drawing out tender influences, blighting brilliant promises, nipping cherished hopes, fostering evil agencies, killing religion, blasting the prospects of the country, breaking hearts, making widows, creating orphans, filling poor houses, crowding penitentiaries, feeding the gallows, depopulating heaven, peopling hell, flooding the river of tears and echoing the wail of hearts that are broken and souls that are

damned. I am driven to ask myself the question, for how much of this are you professionally responsible? In how many of these cases is your alcoholic prescription—needlessly and lightly given, and where other remedies would do as well—the spark that kindles the latent magazine? In how many of these cases is your advice, thoughtlessly rendered, but carrying with it the weight of authority and influence, the knife in the hands of the child that severs the withes of the giant and sends him forth to tear, ravage and destroy? How much does the modern, popular and fashionable system of administering whiskey and other alcoholic stimulants in disease, and freely advising its use as a medicinal agent, contribute to crowding this weird, funeral car that is bearing its load of unhappy voyagers with the speed of time down to a moral and physical *Hades?* How many do we under a mistaken sense of duty and scientific requirement continually thrust under the crushing wheels of this ponderous Juggernaut, victims to a modern professional Vishnu? How many do we, with our liquor treatment, unthinkingly fling into that turbid, rushing stream that is ever *flowing, flowing,* and that empties at last into the ocean of death and dishonor? Or, how many do we with the scratch of a pen or a moment's counsel consign to lives of disgrace and early graves, on whose certificates of death should be written *Similia Similibus curantur?* In other words, gentlemen, in advising the protracted use of alcoholic stimulants indiscriminately and loosly, or under any circumstances without a due regard to the antecedent and present habits of our patient, his inherited proclivities and constitutional weaknesses, and without a cautious inquiry into his family history, are we not acting in the interests of disease through its specific poisoning of the system, at the expense of organic structure, and the risk of making drunkards where we would make cures? In thus recklessly prescribing it, are we not incurring the danger of inaugurating or *reviving* an overmastering habit, in whose deadly clutch its victims can but writhe as in the folds of a laocoön from which few, if any, are ever rescued? Does the one solitary virtue that it possesses, its stimulant property, warrant our general professional use of it in the face of its terrible sequences and surroundings, and will God and our own consciences hold us acquitted for thus intelligently and deliberately perpetuating moral and physical ruin? These are the

questions, gentlemen, that have forced themselves, uninvited upon my attention, and if their brief analysis and discussion result in no other good than the production of an increased caution in handling a useful but dangerous remedy, I shall feel that the moments have not been wasted, and shall therewith rest content.

"Many distinguished physicians and physiologists now boldly affirm that alcohol does not pass through the ordinary processes of digestion, but, like water, is quickly absorbed by the veins of the stomach, and this finds its way into the general circulation; that it is directly antagonistic *to* digestion, and if ever of any advantage to the system when taken in moderation, it must first act through the blood upon the brain and nerves, and then by reflex action upon digestion."

The experiments of Dr. Bocker confirmed by Virchow, prove incontestably that alcohol poisons the blood, that it arrests the development and hastens the decay of the red corpuscles, and the former gentlemen has noticed also a loss of vitality in the colored disks which manifests itself by the formation on them of black oil specks and their conversion into round pale globules. This condition, corroborated also by Lallemand and Lecanu, distinguished French analytic chemists, is fatty degeneration of the blood, which lays the foundation of fatty degeneration of all the tissues in every organ of the body, and the basis according to Dr. T. K. Chambers, of three-fourths of the diseases that medical men are called upon to treat. Dr. Aitken in his Practice of Medicine states that the first effect of alcohol when taken into the stomach is to coägulate every albuminous article of food or fluid with which it comes in contact, and as an irritant stimulating the secretion of the gastric membrane, to lead ultimately to thickening of that delicate tissue.

Dr. Lankester, F. R. S., in his "School Manual of Health," observes that even diluted in the form of beer or wine, alcohol acts injuriously upon the delicate membrane of the stomach and other organs of digestion, and when taken in larger quantities of either of the dilute forms the *same* injurious effects are manifested, not only upon the stomach and liver, but upon the heart and brain, the *liver* and brain, however, being, according to Lalliman and Perin, the organs most susceptible of its evil influences; while the results of Dr. Carpenter's investigations, concurred in to a great extent by

Liebig, shows that it irritates and corrugates living tissues, thereby interferring with capillary processes, and retarding and stagnating the circulation of the blood, which leads to inflammatory action and even gangrene. That it coägutates albumen and impairs the solidifiability of fibrin, consequently striking at the very root of assimilation and nutrition. That it causes a shrinking of the red corpuscles and a mingling of their contents with the liquor sanguinis, thereby seriously affecting aeration and the proper elaboration of organizable plasma, and that nervous, organic, circulatory and mental diseases are the direct result of its moderately protracted use. But the saddest part of his testimony is to the effects that not only are cachectic diseases, mental weaknesses, imbecility and proneness to insanity directly transmittted to the progeny of those who thus use it; but a morbid constitutional craving for and love of the dangerous drug are engendered in them which render their lives but one long, continued struggle for the mastery; and I do say, gentlemen, if there ever could exist an offense of sufficient magnitude to justify a child in cursing the memory of his dead father, and in being utterly thankless for the gift of a painful existence thus unsolicitedly thrust upon him, it would be this inheritance of woe and sorrow, this enemy implanted in his very citadel, this *circe* in his bosom with whose syren songs, more formidable than those which lured Ulysses to his ruin, he is hourly and daily battling for the simple boon of a *sober life*, much more that of a gentlemen, a successful man and a Christian.

That alcohol in any form or under any circumstances, is imbibed at the expense of organic structure, and that its stimulant affect is procured by increasing the destructive process, is most beautifully illustrated by Herbert Spencer in his graphic analysis of its physiological phenomena. When an agent, says he, capable of so changing the molecular state of nerve motion as to arrest its function is taken into the circulation, it first acts on the nerve corpuscles. Each change produced in each one of these, whether of decomposition or isomeric transformation, implies a disengagement of molecular motion or a disturbance of molecular quiet that is immediately propagated along the connective nerve fibres and irritates the centre to which they run. Every nerve corpuscle being thus quickly acted upon, and emitting successive discharges as each suc-

cessive molecular decomposition or transformation is wrought upon it, there results a general exaltation state, which shows itself physically by the invigorated pulse and increased muscular contraction, and psychically by the rush of vivid ideas and intensified feelings.

Hence, while I do not propose to deny to alcohol its true remedial virtues, it is evident to every well studied mind that its effects are but temporary; that its therapeutic area may be narrowed down to a very small point, and that those conditions in which the medical man may dare to prescribe it without rendering himself amenable to God and humanity for wrecked lives, ruined souls, broken down constitutions and other sequelæ of intemperate habits, may be stated in propositions of but limited numbers, and indicated in phrases of very few words. In his great prize essay upon this subject, Dr. Carpenter, F. R. S., has very hurriedly, yet briefly solved the important problem, and mapped out the line of duty for every practitioner who, while treating existing diseases in his patient has an eye, *honestly* to possible complications of which he, *himself*, may become the author, or who, while guiding his patient past the Scylla of present suffering is very solicitous not to plunge him into the Charybdis of future and more formidable and fatal trouble.

In two words he has surveyed the ground, defined the limits and cast up the sum of alcohol's therapeutic value, and in two words, *shock* and *prostration*, or those manifold and varied conditions in which, through a failure of the heart power, feebleness of its contractions, diminution of its impulse and partial or total absence of its first sounds, there are threatenings of a breaking down of the vital forces rendering dissolution imminent and an immediate reäction necessary, alcohol, through the peculiar phenomena so beautifully described by Herbert Spencer, indicated as not only a very valuable agent, but as probably, *in these instances only*, the most important of our diffusible stimuli.

It is totally irrelevant to the subject in hand, and I will not trespass upon your time and patience, gentlemen, by enumerating these conditions. You are all familiar with them, and from the ordinary cold shock up to the great prostration produced by the ingestion of an animal or vegetable poison, every practitioner in the land has, at some period in his professional career, an opportunity of contending with them. They are neither so plentiful as to immoderately tax the memory, so complicated as to be unrecognizable,

nor so obscure as to cause a mistake, but plain and perspicuous, they are so clear that he who runs may read, and none need be deceived in them; but he who is willfully blind to the truth, or who is carried away by vain and illusory systems whose only title to consideration is the polish of a *new* theory, or the charm of a *modern* idea.

But even in *these* emergencies, and, as it were, in the very presence of death itself, the great pathologist rings the changes upon the dangers of indiscriminately administering this stimulant, and with the pale guest, seemingly, already in the bed chamber, cries out his caution and bids the medical man beware and remember, that reäctionary excitement just as surely follows upon primary depression as that depression is subsequent to primary excitement, and if alcohol has been hastily or injudiciously given the excitement will be all the more difficult to control; especially, says he, if the brain be involved in the shock, alcohol having a determinate tendency to that organ. Furthermore, he continues, when alcoholic stimulants are employed for these purposes—that is, in the condition to which I have just referred—the utmost care and watchfulness should be observed, both to avoid the doing positive mischief by an overdose or a longer continuance than is necessary, and the bringing the system into a habit of dependence upon them, thereby predisposing it to all the evils of their excessive use and all the horrors that follow in the line of confirmed intemperance and drunkenness; for there is no doubt, says he, that a course of fatal over-indulgence in alcoholic drinks is very often superinduced by the therapeutic use of them. But it is in chronic diseases, and its protracted use in the acute forms that he is loudest in his condemnation. I believe, says he, that but little, if *any* benefit can be expected from the administration of alcohol in chronic diseases, at least, in so far as regards its specific agency upon the heart and nervous system. That its assumed tonic properties are not only entirely *without* adequate proof, but manifestation with another name of its stimulant effect, and that the seeming advantages of nutrition and flesh making, accruing through its irritant action upon the digestive function is as evidently fallacious as that we see in the *increased* flame of a lamp just after the raising of the wick when there is a deficiency of oil; provided, not by the reänimation of dormant power, but by the more rapid consumption of the little

stock of power left; and it is my belief, continues he, confirmed by late experience, that the *vis medicatrix* of the system *instead* of alcohol, is the great agent for improvement or reviving in these cases when time is given for its operation, and other circumstances combine to favor it.

Finally, says he, inasmuch as even the moderately protracted use of alcohol is so injurious to health, inasmuch as its so-called tonic properties are so utterly fallacious and delusive, and inasmuch as its stimulant virtues may be obtained through other remedies, it is very desirable in the treatment of chronic diseases, and in the prolonged demand for stimuli in acute troubles, that its administration be *avoided altogether*.

Professor Ringer testifies that beneficial as alcohol is, it may do harm as well as good, and that although the heart is the best criterion of its action, its influence over other organs should not be overlooked; inasmuch as it may happen that while it is benefiting one it is injuring another and while it is doing good in one sense, it is inflicting incalculable harm in another; and Dr. Watson, F. R. S., in advising against its employment in delirium tremens, gives it as his opinion founded upon a practice of more than a quarter of a century, that those who recover from attacks of this disease through the agency of alcohol, never abandon it, but on the contrary, return to its excessive use and are ultimately destroyed by it.

In 1875, Prof. Hitchcock, President of the Michigan State Board of Health, issued 200 hundred circulars to the most distinguished physicians of his own State and the same number to the most eminent practitioners of other States, propounding six different queries relative to the sequential history of alcohol as exhibited in their individual experiences. To the question, in that degree, does alcohol shorten the lives of its victims, the answer was—an average of 28 per cent.

To the question, in what degree can inherited disease be traced directly or remotely to alcohol, the answer was an average of 21 per cent.

To the question, what forms of disease are traceable directly or remotely to alcohol, the answer was—all diseases involving the brain and nervous system—inflammation, apoplexy, paralysis, mental imbecility and insanity—all organic diseases having their foundation in fatty degeneration, a few skin diseases, gout and rheumatism.

To the question, in what per centage of the inmates of your asylum can insanity or epilepsy be traced to alcohol, the answer was from 6 to 20 per cent.

To the question, in what percentage can inherited mental degeneracy be traced to the use of alcohol by parents or ancestors, the answer was from—20 to 30 per cent—and in 24,789 cases collected from fourteen of the principal asylums in the United States, the answer was ever the same, sad, gloomy, but confirmatory one.

It is thus established beyond a peradventure, and upon the most distinguished and reliable authority that, as a poisonous agent, alcohol should be prescribed with the greatest limitation and administered with the most consummate caution. That its only remedial excellency is obtained through the decomposition or transformation of organic tissue and arrested function, and that its protracted use, even in moderation, causes fatty degeneration and other organic diseases whose enumeration it is foreign to my purpose to attempt.

And yet, in the face of all of this thorough analysis, this minute investigation and this close and exhaustive study, such men as Letherby, Parkes, Thudichum, Edward Smith and others, highly enlightened, thoroughly cultivated and gentlemen of the largest and most extended experience, still persist in investing it with some fallacious agency as a tonic in debility, some erroneous characteristic as an invigorator in indigestion, some false property as a nutrient and flesh-maker in convalescence and chronic decadence, and some mistaken virtue in diseases consequent upon its excessive use.

Notwithstanding the black records of disease and death which the reports of hospitals, infirmaries, sanitary committees and boards of health are continually rolling up, and notwithstanding such distinguished scientists as Carpenter, Boeker, Chambers, Aitken, Ringer and Lankester have defined its limits, pointed out its dangers, and narrowed down its therapeutic uses to the varied conditions that arise under the generic heads of "Shock and Prostration," restless and ambitious theorizers, more eager for the ephemeral notoriety consequent upon the propagation of a new system than the welfare of their patients, are flooding the land with their pernicious teachings and false theories; and their disciples, faithful to the instructions they derive from these poisonous propaganda, indiscrim-

inately administer alcohol in acute and chronic diseases, and prescribe it with all of the reckless freedom with which they would handle the most innocent and innocuous drug that the pharmacopœia affords.

I wish it distinctly understood, gentlemen, that it is not the judicious, rational, legitimate use of alcohol that I am condemning, but its *abuse*. It is not that I would sweep it from the list of remedial agents and deny its efficacy altogether, but that I would call your attention to the dangers of its *ir*rational, *in*judicious, reckless, administration. As a stimulant to the heart and nervous system in all of these emergencies where an immediate reäction is demanded, and in the language of Dr. Carpenter, where it is necessary to keep the patient alive until his vital forces can rally from the prostration under which they are laboring and more curative remedies be adopted, alcohol has probably no superior throughout the entire pharmacopœia. This is the verdict, founded upon analysis and experience, of many of the most distinguished physicians physiologists and chemists of modern times; but those who, imparting to it a wider field of action, and claiming for it a more extended sphere of remedial excellence, advise its general and protracted use, not only attach to it properties which it does not possess, but lay the foundation and build up the structure of that long line of fatal organic diseases that inevitably follow in the footsteps of its illegitimate employment.

But its physical evils are the very least of all the unhappy sequences of this tampering with alcohol as a medical agent, and they fade into utter insignificance by the side of that greater and more terrible result, the habit of dependence upon it is a daily beverage and from which to a life of moral degredation and ruin, the transition is but a step.

Ah, gentlemen! could we but lift the veil that indulgent time kindly and leniently casts over the records of our professional transactions: could we but peer into the granary of the ages where are garnered the harvestings from so many professional plantings, or roll away the stone from the sepulchre of the buried years where lie entombed so many sad and unfortunate mistakes, I fear we would start back in horror and affright; and as the accumulated debt of fatal responsibilities loomed up before us and as the accusing voice

of conscience with its unmistakable meaning, propounded to us the question, Where is thy brother? our souls would be filled with dismay and silence, and the seeds of remorse and sorrow be implanted in our breasts forever.

In all the flush of his youth and strength, and in the beauty of his budding manhood, with his future spreading out before him like a flowery panorama of promise and hope, the pride of his mother, the ambition of his father, and the love, it may be, of a gentle maiden, the intoxicating cup having never been pressed to his lips, knowing not its taste, having never felt the influence of the charmer, charm it ever so sweetly and subtilely, and in total ignorance of the giant that is slumbering in his bosom; in the matured prime of his middle life while its wine is still sweet and its flowers yet fragrant, or in the freshness and vigor of his green old age slightly impaired by former excesses, but nevertheless full of the cheerfulness and joy of renewed hope and expectation consequent upon reformed and altered habits, he consults us at our office or he calls us to his bed-side where disease has laid its heavy hand upon him.

Fancying that some peculiarity in his case demands it; wishing to pander to a morbid, yet dormant appetite; meeting with some complicating, obscuring element that defies an immediate diagnosis, or perverted by some visionary monograph abounding in incorrect statements and false conclusions: On the same principle that a fashionable Parisian doctor prescribes gold for his lady patient, as a placebo and to render ourselves popular, as a scape-goat behind which to hide our own ignorance, to achieve a little fleeting reputation as a man of progress and a keeper up with the times, or totally indifferent to the cruelty we are perpetuating and utterly thoughtless of the terrible results that may follow, we prescribe alcohol in some one of its many alluring and fascinating compositions. And yet the magazine is there, latent though it be, charged to the very brim with all the elements of destruction and death; the dormant taste is also there needing but an appetizer to arouse all of its quiescent action; the giant lies bound and slumbering in the bosom, and the poisonous viper coiled in momentary apathy, awaits but a little dallying and caressing to revive and animate all of its native instincts.

A modern Prometheus, we literally steal the fire of heaven, but

alas! instead of creating a new life, we destroy that which already has an existence; we re-kindle the smouldering appetite which grows insidiously step by step, little by little until it becomes a vast, raging, irresistible sea of constitutional demand; we sever the withes of the giant, the reptile delivers its deadly sting, and the young man whose future was so brilliant, whose life-flowers were so beautiful and fragrant, and in whom was garnered so many fond expectations of loved ones, goes out from under the hands of the doctor or the monotonous life of his sick chamber a confirmed drunkard and soon lies in the gutter a fallen star and a human wreck. Babylon in ruins, says an ancient author, is not so sad a sight as a human mind overthrown by lunacy; but a sadder sight yet, gentlemen, is the one that I am endeavoring, faintly to depict in your presence. His comeliness and beauty have departed, his well-rounded, lithe, muscular figure has become bloated, mis-shapen and enervated, his eyes that once beamed with the fascination and charm of intellect and soul have become blood-shotten, stark and lustreless, his graceful carriage that elicited the admiration of one sex and the envy of another has degenerated into the shambling gait and uncertain movement of the constant drinker, his faculties are blunted, his self-respect is gone, the slime of the rum-mill and the odor of whiskey cling to him, and there is just enough left of decency of apparel, intellectual gleamings and physical beauty to mark the greatness of the ruin and give a faint perception of what the original in his prime and glory *was*. The sanguine expectations of friends are all disappointed, a mother's heart is broken, a father hides his dishonored head in a premature grave, a sister weeps over a shattered idol, a wife is driven to starvation, children to beggary and ignorance, and through it all, the victim of a single prescription, or the protracted use, as a remedial agent, of alcohol in one attack of sickness, stumbles onward with but one purpose in life, the quenching of the raging thirst for alcoholic drink that is consuming him, until the Potter's field takes him up, or he renders that last, sad, though involuntary tribute to his race when his poor, bloated, disfigured carcass finds its way into a dissecting room and science and humanity get the benefit of his anatomy. The middle-aged man returns like a hog to his wallowing in the mire; the old man having made his last, fruitless effort at sobriety falls back into

hopeless inebriacy, and still the professional juggernaut, moving onwards with its everlasting thunders, pauses not a moment to pity, to spare or to look aside, but rushes forward forever. Impassive as the marble in the quarry it cares not for whom nor for how many it destroys, nor for the results, direct or indirect, many or few, of its destructions. Ever increasing in horror and magnitude, the more it multiplies its victims the more surely and effectually it conceals them; and for the same reason that in an ancient Roman Amphitheatre when it grew to the magnitude of a great city, births and deaths which were common incidents attracted no attention, these multiplied tragedies are unnoticed; and because they neither gratify curiosity nor furnish food for sensation, they are utterly disregarded and passed by as unworthy of either attention or sympathy.

Like the Cretan Minotaur, the veiled prophet of Khorassan or the pitiless Persian Zohauk, its deadly contributions are all the more surely livid that they are made under the brilliant covering of unfulfilled promises and the false hope of profit and advantage. Like the thorn in the bud of the rose, its sting is all the more painful and certain that it is concealed under the velvety softness of hypocrisy and deceit and the fragrance of odors that are alluring; or like the viper that is cherished in the bosom of confidence, its bite is all the more positive, and deadly that it is totally unexpected and given to the hand that caresses it.

Because the results of our injudicious, thoughtless practices do not continually stare us in the face; because not one of them, it may be, is ever brought under our immediate notice; because the poor-house, the house of correction, the Maison de Santé the penitentiary and the grave very kindly and leniently hide them from our view; and because there are no newspaper advertisements or suits at law for malpractice, let us not lay the flattering unction to our souls that we are innocent, that those things are all myths, or that they are distorted images of an over-excited imagination; and because we have succeeded in hiding from public notice behind the sophisms of false theories, professional irresponsibilities and scientific exigencies, let us not fancy, like an ostrich with his head in a hole, that the all-seeing eyes of our consciences, ever alive and sensitive to the least willful commission of wrong, will not find us out and lash us and torture us and condemn us.

In the vast halls of human frailty there are separate and gloomy chambers of a frailty still more exquisite and consummate. We account it frailty that three score years and ten make up the sum total of man's pleasurable existence and that before that time has been reached his beauty and his power have fallen among weeds and forgetfulness; but there *is* a frailty by comparison with which this ordinary flux of the human race seems to have a vast duration. Cases there are, and they are not rare, in which a single day or a month or a year, sweeps away every vestige and landmark of a once memorable felicity; in which the ruin flies faster than storms upon a mountain side, or snow-flakes before the driving blast—faster even than a musician scatters sounds—in which *it was* and *it is not* are but utterances of the self-same tongue in the self-same minute. Cases there are slower and more progressive in their nature; but many more alas! in which youth, beholding life prosperous and happy at the outset, looks out upon a middle-life of wreck and ruin in which there is an abolition even of every fugitive memorial that there ever had been a vessel to *be* wrecked or a wreck to be obliterated.

This is no fancy picture, my friends, neither is it a highly colored, highly exaggerated statement of undeniable facts; and although rhetorically spoken, throughout the length and breadth of this great nation not a day passes that the head, pet or idol of some unhappy family does not fall into ruin, and sometimes even the family itself is swallowed up and obliterated or its course is turned away from the beaming sun of prosperity and happiness toward the wild, dark wilderness of misfortune and sorrow. Conflagrations and shipwrecks are great calamities; earthquakes, pestilences and famines, though of rarer visitation, still greater; but the greatest of all, gentlemen, is the development of an inherited love for alcoholic drinks in a youth of promise and hope, or the re-kindling of a reformed taste in an older man, through the well-meant, yet injudicious, thoughtless action of a family doctor.

And yet, from even these great moral holocausts, that like deadly simooms or cyclones sweep away in a month or a year the accumulated hopes of a life time, lessons of prudence and wisdom may be learned. They are wispered in the quiet, yet surely fatal progress of disease. They are thundered in the wild ravings of delirium.

They are reëchoed in the senseless screamings of insanity; and they come to us in a voice of terrible significance from the land of shadows and tragedies—be wary, be wary in prescribing alcoholic liquor as a remedial agent.

To heal the sick, or to drive back the shadow of Azrael from the couch of human suffering is noble and divine; but to save a man from habits that degrade him in this world and to destroy him in the world to come, is God-like and sublime; and worthily entitle the generous doctor to his place in a niche side by side with, not a Howard or a Nightingale, but a Wesley, a Fletcher, a Whitfield and a Baxter.

Therefore, gentlemen, in exhibiting this agent, not only should we exercise the most unlimited hesitancy in protracting its administration, and not only should we never fail to acquaint ourselves with the heredity of our patient as well as his past habits; but since temperance organizations, philanthropic associations and good men generally are making such persistent efforts to stay the progress of the fell-destroyer and arrest its ravages, the time has come when medical men who are its natural guardians should cast in their lot with these noble crusaders, and at all times and under all circumstances give them the weight of their professional authority and influence; and since alcohol has passed into the hands of those who are not only totally ignorant *of*, but culpably indifferent *to* its poisonous properties, and since it is impossible that we can ever secure an undivided control over it, we owe it to ourselves, we owe it to christianity, and we owe it to bleeding, suffering humanity to, *at least*, be the first in denouncing its improper use, and the loudest in pointing out the perilous reefs and dangerous head-lands that underlie its foaming breakers.

SPECTACLES IN YOUTH.

Read before the Medical Society of North Carolina, at Greensborough, N. C., May 21, 1879,

By Richard H. Lewis, M. D., Raleigh, N. C.

According to the constitution of society in this, our day and generation, the members of the medical profession are the natural custodians of the public health, and it is our duty, therefore, to do everything we can to preserve that health, not only by curing disease actually in existence, but by preventing its occurrence, and by ameliorating the physical condition of our fellow-citizens as far as it may lie within the power of our art. With that object in view it behooves us, as opportunity may present, to instruct the laity in all matters pertaining to hygiene both general and special: and as we are forbidden by our code of ethics to address them through the newspapers, I avail myself of the opportunity by this assemblage of a large number of the leading medical men of our State, even at the risk of proving tedious by a repetition of facts with which they are probably already conversant, to direct their attention particularly to a very important subject, in the hope of reaching through them the general public, and in this way of giving to the latter valuable information of which they are at present for the most part ignorant.

In the nature of things the specialist in medicine has much greater facilities for observing the particular classes of diseases that come within his peculiar province than the physician in general practice, and he is for that reason much more apt to be impressed by a mass of facts that fall under his eye than is the latter, by the same facts doubtless, but occurring at such long intervals in his experience as to be more or less barren of effect. Besides, the general practitioner overburdened by the cares and responsibilities attendant upon the more serious maladies which threaten life, and, in many instances, unfortunately, unable to afford in addition to the instruments actually indispensable, the somewhat costly appliances necessary to make an accurate diagnosis in the class of cases that will engage our attention, is, in some measure, liable to overlook in this apparent triviality, as there are no characteristic objective signs of disease and generally

none of any kind, even if he should be consulted, which on that very account is a matter of doubt, certain eye-troubles of serious moment to the patient.

From my experience in the practice of my specialty, which embraces the diseases of the eye, I am convinced that to a large proportion of our people the idea of putting spectacles on a child is absurd, and, of course, not to be entertained, and it is for the purpose of disabusing their minds of an error fraught in many instances with danger, not only to the physical, but to the mental and moral health as well of their offspring, that I now occupy your time and attention.

The need of spectacles proper, leaving out prismatic glasses, is the result of one of two conditions, either of a failure of accommodating or adjusting power of the eye, or of an error in its refraction. As weakness of the accommodation, pure and simple, save in certain exceptional cases when it is due to a general letting down of the whole system from some exhausting disease, and in which it is apt to prove temporary, is invariably associated with age, the consideration of spectacles in that connection does not come within the scope of this paper; but it is in their relation to the errors of refraction, to-wit: hypermetropia or far-sightedness, myopia or near-sightedness, and astigmatism, inasmuch as they are, with rare exceptions, always congenital, or acquired within the first 15 or 16 years of life, though it is true that the first and last named if slight in degree not seldom remain latent until a much later period, that they will properly engage our thoughts at present.

In order to appreciate the departures from a standard of excellence we must first have a clear idea of that standard; to understand the nature of the errors of refraction we must possess a definite knowledge of the correct refraction—in short, an accurate conception of the normal or emmetropic eye; and, as a repetition of familiar knowledge is preferable to obscurity, I trust that I may be pardoned if at times I appear rather elementary.

Before going into the consideration of the structure of the normal eye, it may not be amiss to recall for a moment the effect upon light of a convex lens. A convex lens bends or refracts the rays of light towards its axis, the amount of refraction bearing a fixed ratio to the curvature of its surfaces. The point at which parallel

rays, i. e., rays from objects more than twenty feet distant, meet after being refracted by it, is called its principal focus, and the distance between that point and the lens its focal length. If the impinging rays instead of being parallel are divergent—if in other words they emanate from near objects, provided, however, the object be more remote than the focal length of the lens, they must, the refraction power of the lens remaining the same, meet at a point further off than its principal focus, or at one of its secondary foci.

In describing the eye as an optical instrument, the very apt illustration that is employed by most writers is the camera. As is well known, that instrument is composed of a dark chamber, with a convex lens at one end and a ground glass plate at the other at, say, the principal focus of the lens.

Parallel rays then would come to a focus exactly on the plate making there a sharply defined image of the distant object, but if the object should be approached until the rays became divergent, they would, of course, meet behind the screen, at one of the secondary foci of the lens, and the picture would be blurred. By a screw arrangement, however, the distance between the lens and the screen is increased until the position of the screen or plate coïncides exactly with this secondary focus when the image comes out sharp and bright again. In the eye we have a dark chamber with a convex lens (the crystalline) in front, and posteriorly, (exactly at its principal focus in the normal eye), a sensitive screen (the retina), and, optically considered, the only respect in which it differs from the mechanical contrivance, is in the mode of its adjustment for near objects. The distance between the lens and the retina being fixed and unchangeable in the eye the adjustment cannot, manifestly, be effected by increasing that distance, as in the camera, but it is accomplished through the instrumentality of the ciliary muscle, which by increasing the convexity, and, consequently, the refractive power of the lens, shortens its focal length and brings up to the retina the focus of divergent rays; or, to express it differently, accommodates the eye for near objects.

Now, the normal or standard eye is of such a length, that when the ciliary muscle is perfectly passive and the lens is completely relaxed its principal focus is exactly on the percipient layer of the retina and distinct vision of distant objects is obtained without the

slightest effort. Moreover, in an eye of this description the power of the ciliary muscle is such that it can be accommodated for a conveniently near point for almost any length of time without fatigue.

Having thus attempted in as few words as possible to depict as clearly as the circumstances and the want of diagrams would permit, the normal eye, let us now see to what departures from this standard the several anomalies of refraction are to be attributed. I will at first merely state them, and later take them up seriatim, and consider them in their effects, and in their relations to spectacles, more at length.

In hypermetropia or H. "for short" as it is generally written, the eye-ball is too flat, too short from before backward, and, as a result, the retina is situated within the principal focus of the lens and parallel rays meet behind it. The refractive power is too low. It is corrected by a convex glass which supplies the deficiency in refraction.

In myopia or M., just the reverse is true—the eye is too long in its antero only too long—posterior diameter, the retina is therefore situated beyond the principal focus of the lens, and parallel rays meet in front of it—the refraction is too high. It is corrected by a concave glass which neutralizes the excess of refractive power, which, by rendering the rays of light divergent, sets back their focus to the retina.

In astgimatism there is a difference in the refractive power of two meridians of the eye which cross each other at right angles. It is due to an asymmetry of the cornea, that structure being curved more sharply from side to side, for example, than vertically, so that, while the horizontal meridian is myopic, the vertical is normal, or even hypermetropic. It is corrected by a cylindrical glass which refracts the light chiefly in a plane at right angles to that of its axis and not at all in the latter.

Let us now consider these errors somewhat more in detail and as H. is the most common, certainly in agricultural communities like our State, where the proportion of inhabitants devoted to purely literary pursuits or the finer mechanic arts is comparatively small, we will take that up first.

Far-sightedness, as stated above, is due to an abnormal shortness

of the globe from before backward, so that with the accomodation relaxed, even parallel rays come to a focus behind the retina. As a matter of fact, however, the accommodation unless paralyzed by disease, or artificially by some mydriatic, is never entirely relaxed, the instinct for clear vision being so strong, that involuntarily it exerts itself, increases the convexity of the lens, and brings up the image to the retina in its faulty position. This effort for distance, unless the error is very marked, is not appreciable, and is generally so much less than the total strength of the ciliary muscle that no fatigue follows distant vision ; but when the hypermetrope comes to look at a near object, to read for instance, it must be added to the accommodation required of the normal eye for near vision, the demand upon the ciliary muscle is excessive, and it soon becomes fatigued.

We should remember, though, that in infancy and early childhood the lens is very soft and plastic, and that this extra accommodation, on that account, is obtained at that period in most cases without any apparent strain. About the age of 10, however, the lens commences to get stiff, and with each succeeding year becomes more and more so, and consequently, as the person grows older, a greater accommodation effort is required ; and, sooner or later in proportion to the degree of the error, generally from a few years to forty-five when old sight comes in, it gets to be impossible to keep up the strain for any length of time, and to maintain continuous near vision.

The sight is nearly always very good at first through a vigorous effort, a "spurt" as it were, to use a racing phrase, on the part of the muscle of accommodation, but like all other excessive muscular efforts it cannot be kept up, it soon relaxes and everything becomes dim. After a rest the reading can be resumed, but the same trouble supervenes even more quickly than before, until finally, after repeated trials, each shorter than the preceding, the eyes become so irritable and painful that their owner is compelled to desist.

If the use of the eyes for near objects be persisted in under these circumstances, the retina is likely to become chronically congested and sensitive to light, and the lids to take on a chronic form of inflammation. Besides, this eye strain, by causing a peripheral

irritation of the nervous system is, in addition to the effect upon the eye itself, frequently followed by headache, and it is liable in some cases to cause more or less serious impairment of the general health. Every physician is familiar with the effects of reflected nervous irritation, and although these troubles are more frequently connected with astigmatism, yet they sometimes accompany simple hypermetropia as was strikingly illustrated by the case of a young married lady of 26, who was under my care not very long since. She had a rather high degree of H. (1-9th), and her eyes had troubled her from childhood. For several years she had been quite an invalid, the services of her family physician being in frequent demand for one trouble or another, until he sent her to me for her eyes. I ordered a simple pair of convex spectacles, and under their use, she not only enjoyed keen and comfortable sight, but all her various ills vanished, and in three months she gained thirty pounds in weight.

It is not, however, in its influence on the physical health that H. chiefly deserves our attention, but in its effects upon the mental and moral well being of its possessor which are more lasting and more serious in every way. As we have seen the far-sighted child has perfect vision for distance, and even for near objects for a short while, and, as the popular estimate of sight is generally based upon the distance at which objects can be discerned, he is looked upon as having very good vision.

Moreover, as there are no signs of disease of the eye, and as his teacher and parents observe that he never complains of any difficulty in following agreeable pursuits, that he can see to play marbles, or ball, or even to shoot a gun, possibly with exceptional accuracy, they are not prepared to accept his excuse for unlearned lessons, that he cannot see and that his eyes hurt him. His excuses are, therefore, pooh-poohed, his failures attributed to laziness or stupidity, and his misfortunes probably added to by frequent punishments of some kind—in "the good old times" doubtless by a vigorous application of the birch or hickory. The boy knows that he has told the truth, that he cannot see the letters long at a time, that his eyes do get painful, and he feels that his frequent punishments have been undeserved, and he either becomes cowed, or, his little breast swells with indignation at the injustice done him, and

he becomes sullen and rebellious. In either event his moral nature is apt to be distorted and embittered, and his whole after life rendered less happy thereby. "As the twig is bent so will the tree grow," and the failure to recognize or correct this error in childhood has, no doubt, in this way been productive of truly unfortunate consequences to very many people. After a while, when a faithful trial of the rod, or confinement, or both, has convinced his teacher and parents of their inability to accomplish a physical impossibility; and when the damage to his disposition has already been done, the boy is probably taken from school, all hope of an education denied him, and, though he possess the genius of a Newton or a Dickens, he is doomed, merely for the want of so simple a thing as a pair of ordinary spectacles, to waste his talents between the plow-handles or in some such calling.

Another, and by no means rare, effect of this error is internal strabismus. By the laity it is generally attributed, as you doubtless know from experience, to various causes, such as looking at an overhanging curl, or a feather in the cap, or to the imitation of other cross-eyed children: but Professor Donders has shown it to be almost invariably a result of H. and has explained the reason of it. The rationale of the causation of internal squint by H. is, I think, one of the most interesting things connected with the eye, and worthy of a moment's consideration. As you are aware, both the muscles of accommodation and those of convergence receive their nerve supply from the same source, through the 3d pair, and, inasmuch as in the normal eye they always act together, the demand upon both being made equally as the object is approached to the eye, there is a certain coördination, or harmony of action between them; and since, as a late writer suggests, the defective development of an external organ like the eye is not necessarily, or likely to be accompanied by a corresponding want of development in the central nervous ganglia, the natural harmony of action existing between these two sets of muscles is not likely to be disturbed by any change in the shape of the eye-ball. They always act together then, and as a current of nerve force is sent to the muscle of accommodation a corresponding demand is made upon the internal rectus, so that the action of one cannot be increased beyond certain narrow limits without an increase in that of the other—the greater

the convergence the greater the accommodation and *vice versa*. Now the hypermetrope, who, in order to see distinctly near objects, has to make a violent accommodation effort, avails himself of this fact, and to effect the extra accommodation, he increases his convergence abnormally—in other words crosses his eyes.

An illustration may make this clearer. Suppose a far-sighted child wants to read at 12 inches, but the accommodation required of him for 12 inches is as much as would be demanded of a normal eye for 8 inches. By converging for 8 inches he can, for the reasons above set forth, obtain sufficient convexity of the lens, but then neither eye would be directed to the object which is essential to acute vision. If he were to relax his convergence to 12 inches his accommodation would relax in the same proportion and become insufficient, so, in order to retain both and at the same time see acutely, he makes, while the angle of convergence remains the same, i. e., for 8 inches an associated movement of the two eyes together turning one outward to the object and the other correspondingly inward, thereby producing a squint of the second eye. When this internal strabismus first makes its appearance, it is periodic in character, only occurring when the child looks intently at some near and small object; but after a while the internal rectus undergoes structural shortening and it becomes permanent. At first there is double vision, but in most cases the false image falling on an eccentric part of the retina causes little or no annoyance, and even if it should, the child soon learns to mentally suppress and disregard it. From disease and suppression of the image the squinting eye becomes after a while, for all practical purposes, blind. It is only in the slight and medium degrees of H. that the liability to squint exists, because in the higher degrees it is impossible for the child to obtain clear near vision by any unaided muscular effort, and he speedily abandons the attempt and contents himself with seeing everything more or less directly, but with both eyes. Fortunately the instinctive desire for binocular vision exerts so strong and controlling an influence over the eyes, that, except in cases where there is a congenital weakness of the external recti, the squint is not apt to occur unless by some means, as by a difference in the visual power of the two eyes, the value of binocular vision is diminished.

The applicability of convex glasses as a means of preventing crossed-eyes is, of course, apparent. By supplying the deficient refractive power they make the demand upon the accommodation no greater than in the normal eye, and thus serve to remove the cause for the abnormal convergence. It must be confessed, however, that not infrequently the tendency to squint is so strong, especially in those cases where one eye is much more defective than the other, and where the preponderance of the internal recti is marked, that one eye will turn in eventually in spite of the glasses. And it is likewise true, that in addition to the difficulty of fitting glasses accurately to a child too young to read or give reliable answers, (though it can always be done by a skilful use of the ophthalmoscope), there are certain manifest objections to putting spectacles on very young children; yet, nevertheless, it should always be done, for even if they do not succeed in finally preventing the squint, they will postpone the time of its occurrence, serve to preserve the sight of the offending eye, and thereby to increase the chances of an entirely successful operation at the proper time. Besides, as glasses will generally have to be worn even after the most successfully performed operation to prevent a recurrence of the squint, it is certainly advisable to give them a trial in the beginning in the hope of preventing altogether, or at least postponing, the necessity for resorting to more heroic treatment, at the same time that better vision is afforded.

As illustrations of the value of spectacles in this class of cases I will mention briefly two, occurring among others, in my practice. One was a little boy in dresses, only three years old, who had a marked periodic squint whenever he looked intently at anything, that his mother ascribed to a fall, in which he struck the inner corner of his eye against one of the numerous angles of a chair. I ordered a pair of suitable convex glasses for him, and sometime afterwards she informed me that his eyes remained perfectly straight as long as he wore the spectacles, and that if for any reason she neglected to put them on he would ask for them, such was the comfort he experienced from their use; I have not heard from him since. The second case was that of a young girl of 12, whose squint had existed for seven years, having become in that time almost permanent, (it is not being entirely so was very unusual) as

the eyes were constantly crossed except at intervals of two or three weeks when they would become straight for a short while.

The happiest results were obtained from the habitual use of so weak a glass at + 1-42, for at the end of a year when I lost sight of her, there was no trace of deformity, and she had in the meantime been able to study with comfort—a thing she could not do without the spectacles.

Myopia, as already explained, is due in a vast majority of cases to a condition exactly the reverse of that in H.—the eye-ball is too long from before backward—its refraction is too high, and parallel rays, consequently, come to a focus in front of the retina, and vision of distant objects is blurred. Since divergent rays meet further off than the principal focus, at one of the secondary foci, near objects can be clearly seen. This condition unlike that in H. is, we may say, never congenital, but it is almost always acquired in childhood, or early youth, and is, therefore, of special interest to us. Its principal cause is to be found in the prolonged use of the eyes or very near objects, and it is for that reason that it generally makes its first appearance during school life when the eyes are first called on for continuous near work, and that it is most common among literary people. If there happen to be an insufficient supply of light, as is often the case in imperfectly constructed school houses, as well as in the bad habit many children have of reading by twilight; or, if the difference in height between the seats and desks be improperly great, the book must for manifest reasons, be brought very near to the eyes—dangerously near, as I had occasion to set forth at some length in a lecture before the Normal School at Chapel Hill two years ago, and as will, I think, appear sufficiently for our purposes from what follows:

Before maturity, the tissues of the eye in common with those of the rest of the body are soft and yielding, and therefore more prone to give way under any under pressure than later in life. In convergence beyond a certain point the ocular muscles in opposition to the internal recti are put upon the stretch, and the eye-ball consequently squeezed from side to side. If this pressure be excessive, or very prolonged, or if the tunics of the eye be from any cause unusually weak, as the choroid frequently is from the congestion following straining the eyes by a bad light, they are apt to give way

—to bulge backward—thereby increasing the antero-posterior diameter of the ball—at the point of least resistance, which happens to be around the entrance of the optic nerve—the very point, to still further increase the trouble, at which the force of the squeezing is most felt. Of course, when the myopia is once established by this bulging and consequent thinning of the ocular coats, it can be increased still more easily by persistence in the dangerously near approximation of the object—in short by the continued action of the cause upon an eye less able to resist. If this stretching of the tunics, including the retina, be increased beyond certain limits the sight becomes seriously impaired, and in some cases, through secondary diseases excited by this condition, destroyed. It is, therefore, incumbent on us as guardians of the public health whenever we see a child reading with his book too near his eyes to warn him of its liability to make him near-sighted, and if we find him already so myopic as to necessitate his bringing the book within a safe distance, say 10 inches, to suggest the means of his obtaining vision at a more remote and safer point—in a word to advise spectacles.

By doing this, besides opening up a new world to him in distant vision, we may succeed in preventing the progress of the malady, for in the higher degrees it amounts to a disease, there being nearly always more or less sclero-choroiditis at the point of bulging.

The evil consequences of uncorrected myopia in childhood, certainly when it is of a high degree, are not restricted to the eye itself, but are likewise to be seen in the physical and mental economy as well. The bad effects of the stooping position rendered necessary by a high degree of near-sightedness, in a young and growing child, producing the contracted chest, and interfering with the free play of some of the most important of the vital functions, must be so plain to every physician that it would be superfluous in me to dwell on this aspect of the subject. The mental and moral aspect of it is so well considered by another that I will take the liberty of quoting. "Young persons," says a recent and distinguished writer on ophthalmology, "who are short-sighted and are suffered to grow up without spectacles, that is to say with no distinct vision of anything which is more than six inches or twelve inches from their noses, lose an amount of unconscious education which no teaching can supply. Their faculty of observation in its wide sense can at

best be only partially developed, and their mental horizon is apt to be as contracted as their physical one. Even without reference to other equally important considerations I am accustomed to urge upon parents that short-sighted children should be made to wear spectacles habitually in order that they may see the world as it is, and may not people a world of their own with introspection and morbid imaginings."

From what has been said it is evident that the importance of spectacles to near-sighted children in relation to the preservation of the eye itself as an organ of vision, as well as in relation to their physical and mental health and growth, cannot be well exaggerated.

Astigmatism, as was explained before, is a peculiar error of refraction due to a want of symmetry in the cornea, that structure being curved more sharply from side to side, for example, than from above downwards, in which case the refraction of the horizontal meridian would be greater than that of the vertical. These meridians of greatest and least refraction which are always at right angles to one another, but not necessarily vertical and horizontal, are known as the principal meridians. While astigmatism is neither H. nor M. it yet partakes of the nature of one or the other in all cases, and in the mixed form of both ; for any variation from the normal refraction in any meridian would necessarily produce in that meridian one or the other of these errors. Time and your already overtaxed patience forbid our going into a more lengthy consideration of the nature of this most interesting anomaly, though that is a matter of small moment, as any one desiring to pursue the subject further will find it fully explained in any good work on the eye.

For our purpose it will suffice to bear in mind the essential fact, which is the *difference* in the refraction of the two principal meridians. Let us consider for a moment the consequences of such a state of affairs.

It is evident that an astigmatic eye cannot obtain a sharply defined image of any object near or distant for the reason that when it is accommodated for one meridian it cannot be for the other at right angles to it—it cannot focus, for instance, vertical and horizontal lines at the same time. It is true, that in childhood when, as we have seen, the accommodation is very active, if the difference

between the two principal meridians be comparatively slight, very good vision is sometimes obtained by accommodating separately for the two aspects of the object with such rapidity that the second can be seen before the first fades from the retina. When the astigmatism is high in degree, however, this cannot be accomplished, and the sight is very defective. Asthenopia too is more apt to accompany this trouble than H. even, simply because one continuous steady muscular strain for a certain time is much less fatiguing than a multitude of smaller efforts following each other with lightning rapidity. It would certainly be much less tiresome to a man to pull steadily one pound for one minute, than to make 96 pulls of a drachm in the same time.

On this account it is the most annoying to the patient of all the errors of refraction, and the reflex irritation of the nervous system excited by the excessive demand upon the accommodation, and by the dazzling resulting from the irregular refraction of the light which is very trying, (it is beautiful to see the relief in this respect that sometimes immediately follows the correction of the anomaly), is very a frequent cause of headache, and in some cases of serious, if not dangerous consequences to the general health, instances of which you have no doubt seen recorded in the journals. Looked at in its effects upon the mental and moral nature nearly everything that has been said in this connection of both H. and M. can be properly said of astigmatism.

The nature of myopia was first explained by the great German astronomer, Kepler, as early as 1604, as I learn from the classic work of Donders ; but of H. and astigmatism nothing except their effects was known until the present century was well advanced, and indeed it was as late as 1858, when Donders first published an account of the true nature of H. with a solution of the various optical problems connected with it, so that the blessing of sharp and comfortable vision to the numbers of hypermetropic and astigmatic people in the world is one, and by no means the least, of the many good gifts to suffering humanity of "Modern Medicine."

I have purposely omitted any consideration of the methods of selecting glasses, assuming every one possessed of the appliances necessary to an accurate test of vision to be already familiar with them.

To some of the more conservative among you, gentlemen, the facts that I have just so imperfectly called to your attention may appear chiefly fanciful and theoretical, but they are of very great practical importance as the testimony of every one who has investigated them proves.

As every oculist knows these errors of refraction are quite common, and on account of their hereditary character increasing in frequency; and that they should be promptly corrected, I hope I have been able to show.

From the numbers of such cases occurring in my practice during my short residence in the State, I am confident that there are hundreds if not thousands of our people at this moment suffering from "weak eyes" and its consequences, in total ignorance of the fact that so simple a thing as a pair of spectacles accurately adjusted would clear away the mists that now obscure their sight and permit them to use in comfort and thoroughly enjoy the first of the senses.

As said in the beginning, very many of these sufferers will not seek you for aid because there are no manifest evidences of disease, but you will no doubt be asked for advice in many other cases, and if by this feeble effort I shall have been at all instrumental in ameliorating the physical condition of some of our fellow beings by the more extended application of our art, my object will have been accomplished.

SULPHUR AS A REMEDY IN THE TREATMENT OF DIPHTHERIA.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 22, 1879.

By Wm. R. Wood, M. D., Scotland Neck, N. C.

Educated in an age and school when lunar caustic was the remedy *par excellence* in the treatment of diseases of the throat, I was taught to believe that the physician who failed to exhibit it in his ministrations to that much abused organ, was sure to be condemned

by the family and friends of the patient as having neglected his duty in its most vital and essential part. Under the rapid advancement of an enlightened science, patient research and a sound pathology, I am happy to see such remedies in the treatment of such diseases fast passing away from the pages of medical literature. For with my experience in the treatment of that most fatal disease, diphtheria, I am most profoundly impressed with the belief that about as much mortality has been caused by the active use of nitrate of silver in the treatment of that affection as by the disease itself, when unaided by any medical treatment whatever.

Waiving all unnecessary discussion and argumentation relative to the nature and pathology of the disease in question which has been so often and exhaustively debated by the profession at large, I desire simply to lay before the profession of North Carolina my experience and practice in the treatment of diphtheria with sulphur as a topical or local application, for what it is worth. Hoping after testing its efficacy by actual experience as I have done, they may succeed in establishing its reputation as a valuable remedy in the treatment of this fell destroyer of the human species. Neither will I pause to discuss its *modus operandi* or how it produces its specific action. Whether a sufficient quantity being absorbed into the general circulation, manifests its action as a powerful alterative on the system at large, attacking the diphtheritic poison through the medium of the blood or simply acting locally, directly on the membranous exudation, destroying the peculiar *fungoid organisms* by some other of its numerous properties, is a question I shall leave to theorists and experimentalists to determine. The idea acted upon by me relative to its curative powers was that of its action as a local specific in the treatment of scabies or itch, were so pronounced an effectual in destroying the minute animalculæ peculiar to that affection—why may it not produce the same specific effect as a curative agent over the *micrococcus bacteria* or whatever *contagium vivum* it may be that develops the peculiar diphtheritic exudation; or, in other words, if sulphur *per se* posseses in such a powerful degree the capacity as a destructive agent over so great—by comparison—an animalculi as the *sarcoptes hominis* (acarus scabiei), why should it not exert a thousand fold more destructive influences on the infintessimally minute micrococi or bacteria of the diphtheritic membrane?

Those were the principles upon which it first presented itself to my mind, and on which I founded my opinion of it as a remedy in that most fatal malady. The first case upon which I had occasion to observe its especial efficacy was in a young lady some seventeen or eighteen years of age, living in the village of Palmyra, about seven miles distant from Scotland Neck, whom I was called to see on the evening of January 3d, 1878. I found her suffering from sore throat, with considerable fever and headache, accompanied by an eruption on the face, neck, forearms and hands, causing intense burning and itching sensations. On examining her throat I discovered the whole of the fauces, soft palate and back of pharynx, completely covered by diphtheritic exudation; fever being quite high and tongue very much coated, (it being very near night), I prescribed, calomel viii, Dover's powders iv, grs.—to be exhibited in pill at bed time, after a hot mustard foot bath; also directed a teaspoonful spts. nitre every two hours in wine glass iced flax seed water, with instructions to take in the morning a goblet of citrate of magnesia. On examining my medical case for the purpose of preparing a gargle for her throat, I found that I had neither tinct. of iron or chlorate potash. (I intended to make application of tinct. chloride of iron to her throat, and prepare a gargle of chlorate potash). On looking up, I noticed on her dressing case a glass of sulphur and water mixed, which she informed me, "she had seen recommended in a newspaper as a good gargle for diphtheria." I at once determined to let her use it during the night, and bring her a carbolic diphtheria gargle next morning, and left. On my return next day about noon, I found her much better, with slight fever and decidedly relieved of the intense burning and itching caused by the eruption which seemed fast disappearing. On examination of her throat I was much surprised to notice the almost complete denudation of the diphtheritic membrane observed on the previous evening. The sulphur gargle was continued and she was placed on chlorate potass. mur: tinct. iron and quinine in moderate doses every three or four hours. The nitre and ice water for the yet remaining fever being continued. I promised to call again next day, but did not from some cause or other. I visited her though, on the day after, (the 6th,) and found her almost well, the throat being entirely clear of the membranous exudations; but red, and

tonsils somewhat swollen. I prescribed acetous gargle and continued other remedies. This patient recovered without another bad symptom

My next case proved to be one of great anxiety and care, a sweet little girl, Lizzie L., residing in the family of Mr. E., of Scotland Neck, about six years of age, was attacked with diphtheria of a most violent form, early in October, 1878. Being confined to my room by sickness, I did not see her for several days after the inception of the disease. On the morning of the 8th, however, I was urgently requested to see her, and visited her. I found her condition critical in the extreme. She presented at first sight all the phenomena of a well developed case of scarlet fever. A crimson flush or efflorescence suffused her face, breast, neck, arms and lower extremities: high fever, hot dry skin, extreme restlessness, excessive nervousness and delirium; a wild expression of countenance, eyes red and watery, tongue coated and red on edges and tip, with slight nausea and retching, and to complete the complication, the roof of the mouth, the fauces and back part of the throat, were thoroughly covered by the peculiar diphtheritic exudation, the tonsils, the parotids, the sublingual glands and all the surrounding parts were very much swollen and inflamed. I immediately placed this child in a hot mustard hip bath and prescribed refrigerant diaphoretics combined with teaspoonful spts. nitre and one drop tinct. aconite every two hours, directed her head and face to be bathed in ice water and vinegar; also gave her five grains calomel and one of ipecac, to be followed in the course of a few hours with wine glass draughts of citrate of magnesia and ice every hour until bowels were moved. At the same time I had flannel applied to the glandular swelling about the throat saturated with the following liniament: camphorated tinct. soap and tinct. arnica, of each one ounce, tr. of aconite and oil turpentine, of each two drachms.

This case being so severe and complicated, I did not deem it advisable to risk the sulphur application to the throat at first, as I thought it inexpedient to resort to an unestablished remedy in so serious a case. I, therefore, made frequent applications of tinct. chloride iron to the exudations, and used carbolic acid gargle. During the day and night the medicine taken acted finely, her bowels were well and thoroughly evacuated, her fever somewhat

moderated, and altogether by next morning her condition seemed to be more favorable; but on examining her throat I found no material change, the ulcerations looked dusky and ash colored and the portions of the mucous membrane not covered by the exudations, presented an alternate red, mottled and livid appearance. As I am a sworn enemy to nitrate of silver in all such cases and as I had made several applications of the mur. tinct. iron during the night without any perceivable benefit on impression, I determined to try the sulphur treatment, as it could do no possible harm if it did no good. I put a teaspoonful of flowers of sulphur in half wine glass of flax seed water, and made as well as I could, by constant stirring, a thick emulsion, taking a small mop made of soft, linty cloth, I filled it well with the sulphur mixture and thoroughly mopped her throat with it, leaving a pretty considerable coating of the sulphur on the diseased surfaces and adjacent parts; ordering the application to be repeated every three or four hours. She was also put upon beef tea and milk toddy, in tablespoonful doses, alternately every two hours; and directed to use the following gargle, freely and often: chlorate potash, ℥ ij.; hot water, ℥ vj.; alcohol, ℥ ss.; creosote, (8) viii gtts.; hydro chloric acid, xxx gtts. Fever still being very high and the excessive nervousness and delirium more fully pronounced than on the previous evening. I ordered two drops tinct. aconite and five grs. bromide potassium in teaspoonful camphor water every three hours, continuing the refrigerants and nitre. Crushed ice was allowed by the teaspoonful, *ad libitum*, and frequent sponging of the hands and face with ice water and vinegar, continuously applied.

By the next day I was much gratified to find a most favorable change in her condition, the membranous exudation had entirely disappeared from the roof of the mouth and back part of the throat, and only two remaining patches were visible, covering each tonsil. The mucous membrane of the surrounding parts had also changed its lividity of color, and now presented a bright red and glistening appearance. Her other symptoms were also much improved, pulse softer and less frequent, tongue slightly moist, slight perspirations, fever, in a measure, subdued, and the scarlet efflorescence disappearing and of a paler hue, with moments of returning consciousness. I now administered tinct. chlor. iron, chlor. potassa.

and quinine every three hours, in as large doses as her stomach would tolerate. Dover's powders were ordered at night for restlessness and an occasional dose citrate magnesia to regulate the bowels. This course of treatment was persevered in for several days or a week, at the end of which time all the symptoms had materially moderated, the scarlet rash had almost totally disappeared, the patches of exudation on the tonsils, before alluded to, had entirely peeled off, nervousness and drlirium in a great measure subsided, and consciousness again established. Notwithstanding all this improvement, there was still a condition about the throat which I did not like, although every vestige of the diphtheritic membrane had disappeared, and the swelling of the different glands alluded to, much diminished, yet there remained a bright red, glistening and hardened appearance about the fauces and tonsils, the latter being considerably enlarged, however, she gradually improved under the above treatment, with slight modifications, and at the end of about three weeks from the first attack, was considered convalescent and discharged, when suddenly without any apparent cause, she was taken with a relapse; but in a more modified form, and again her throat became covered with diphtheritic ulcerations. Again, I resorted to the sulphur applications, with all the other remedies as above described, the sulphur soon cleared away the membranous exudation from the throat, and she finally recovered from this second attack; but convalescence was slow and protracted, and it was several months before she regained her former health and strength.

The next cases on which I applied sulphur to the throat were those of two beautiful, interesting young girls, Minnie and Etta, aged twelve and fourteen respectively, the daughters of Mr. E., of Scotland Neck, the same in whose family Lizzie L., was an inmate as mentioned above, both were attacked during her first convalescence, one almost immediately after the other, and both presented the same peculiar characteristics of the disease as described in her case, though in a milder degree. Both were suffused by the same scarlet rash, though it was not near so intense and well developed as in her case, and the throats of both were well covered with the diphtheritic exudations—there was much less fever and restlessness and no delirium—both were treated with the sulphur applications and the other usual remedies, and both rapidly recovered in the course of ten days or a fortnight without any serious consequences.

Now was this scarlet fever I have been describing? I think not. There was no desquamation of cuticle, or very little, and none of

the consecutive diseases or sequelæ attendant upon that disease. It occurred in an isolated and healthy neighborhood. There was no scarlet fever prevailing at the time, nor had there been.

There were no other cases similar to those described or following them. My opinion then, was, and is now, that they were merely sporadic cases of scarlet rash or roseola, complicated with a severe attack of diphtheria, as there had been one or two cases of that complaint reported in the neighborhood, though unaccompanied by any attendant diphtheritic lesion.

The fifth and last case I shall report in this paper in which I used the sulphur treatment, was that of a negro infant, aged seven or eight months, which was brought to my office by its mother. It was suffering from an almost putrid sore throat, covered by a mass of diphtheritic exudations, with a constant, offensive and fetid discharge from either nostril. Its throat being so swollen, I could not make any application whatever, without strangling or suffocating it. I, therefore, injected the sulphur mixture through the nasal passages, and directed its mother to fumigate it with the flowers of sulphur three times a day, and gave it internally, minute doses mur. tinct. iron, chlor. potassa and quinine every three hours, and recommended cleanliness to both mother and child. This patient materially improved under this manner of treatment; but died some two weeks afterwards from exposure and sheer negligence. I am confident this case was benefited by fumigations with sulphur, and would eventually recovered had it been blessed with the requisite surroundings. I usually use one or all of these methods in applying the sulphur to the affected parts, viz: The one already mentioned as mixed with flax seed water and used by mopping, gargling, or injecting through the nasal passages, or what is preferable when it can be done, blowing the dry sulphur through a reed or quill directly on the diseased surfaces, and lastly by fumigation. I have treated numerous other cases of diphtheria with sulphur in the last eighteen months, some very simple ones, whilst others were of a very grave and serious nature, and in no single instance thus far have I had cause to regret its adoption.

Before concluding this article I will mention a severe and most obstinate case of membranous croup in which after exhausting all the usual, as well as unusual remedies generally exhibited in such cases for two consecutive days and nights, when almost despairing of the little patient's life, I resorted to frequent applications of the sulphur emulsion to its throat with occasional fumigations also. The child, after a desperate struggle, finally recovered; but whether any credit was due to the part the sulphur treatment performed in his recovery, or, it was owing to other and more rational treatment, I am not prepared to state. But I think with the lights before me, it deserves at the hands of the profession a fair trial and impartial judgment in the treatment of diseases of the throat, especially those of a diphtheritic character.